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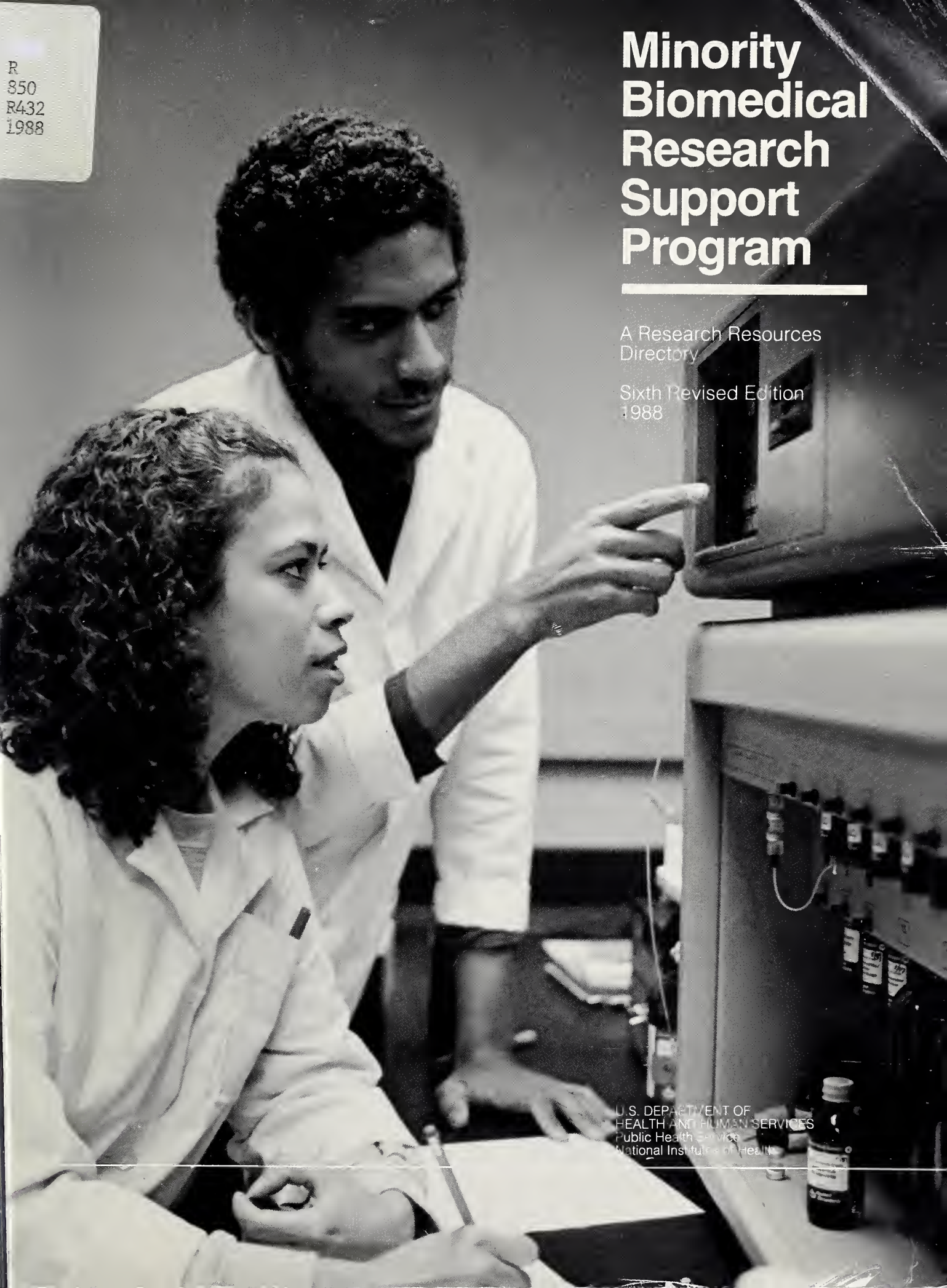
Minority Biomedical Research Support Program

A Research Resources Directory

Sixth Revised Edition
1988



U.S. DEPARTMENT OF
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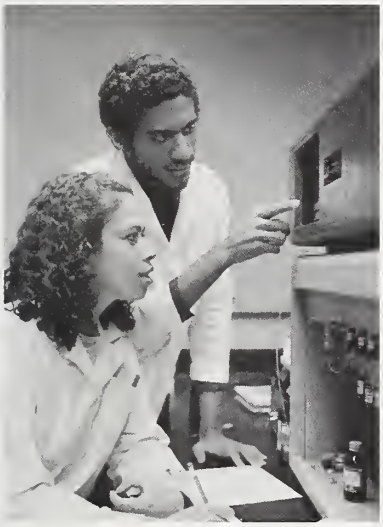

Ph.D. candidate Miriam Rivas and B.A. candidate Erich D. Jarvis of the Minority Biomedical Research Support Program at Hunter College in New York City use an oligonucleotide synthesizer to verify the synthesis of a polymer.

Photo by Janet Charles.

Minority Biomedical Research Support Program

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Minority Biomedical Research Support Program

To correct the underrepresentation of minorities in biomedical research and to eliminate obstacles to their participation, the Minority Biomedical Research Support (MBRS) Program of the NIH Division of Research Resources (DRR) was begun in 1972. The major thrust of the program is to develop minority student, faculty, and institutional involvement in biomedical research. Through its grants, the MBRS Program supports projects and enrichment activities designed to strengthen the biomedical research capabilities of minority institutions and to expand the involvement of minority faculty and students in biomedical research. Funds for these research projects provide scientific equipment, facility renovations, improvement of animal care facilities, support of students, travel to professional meetings, and release of faculty from teaching to conduct biomedical research.

A unique feature of the program is its emphasis on undergraduate participation in all aspects of biomedical research, including conceptualization of important research questions, design of experiments, review of the literature, collection and analysis of data, and finally, interpretation and reporting of results at meetings and in scientific journals.

The MBRS Program has steadily increased the number and types of institutions and the scope of projects supported. At its inception in 1972, the program supported 170 research subprojects at 38 institutions. In 1987, 655 individual research subprojects were supported at 102 institutions.

The MBRS Program has evolved to encompass three major mechanisms of support designed to accommodate the diverse resources and needs of eligible institutions in meeting the overall program goal. The three mechanisms of support are:

- The traditional MBRS Program, which began in 1972, supports primarily regular research projects and/or student participation on projects of established investigators (designated MBRS associate investigators). Schools eligible for this mechanism range from 2-year institutions to those that offer graduate or health-professional degrees.
- The MBRS Program for Undergraduate Colleges, which began in 1985, supports enrichment activities (a required component), pilot research projects, and regular research projects. Enrichment activities include such activities as workshops, attendance at scientific meetings, and summer research experiences for faculty and students at off-campus laboratories. Schools eligible for this program are 2- or 4-year institutions.
- The MBRS Thematic Program, which also began in 1985, supports research related to a single theme. Only support for faculty is provided; no support is provided for student involvement. Schools eligible for this program are minority institutions that are grantees in the traditional program and that offer doctoral degrees in the biomedical sciences.

Purpose and Organization of the Directory

This publication constitutes a complete revision of the 1984 edition of the Minority Biomedical Research Support (MBRS) Program Directory prepared by the Research Resources Information Center for the Division of Research Resources (DRR), National Institutes of Health. It is one of a series of directories of research resource facilities and services supported by the DRR throughout the United States. This new directory is a guide to MBRS Programs supported throughout the country and the individual research subprojects at each site.

Within each mechanism of support (traditional, undergraduate, and thematic MBRS Programs), directory entries are organized alphabetically by state and by name of grantee institution within each state. Each entry includes the name of the institution; the name, address, and telephone number of the program director; project investigators and number of student participants (except for thematic grants); and research projects. A geographic index to the grantee institutions is provided at the end of the directory. It lists the institutions alphabetically by state and by title within each state, and includes the names of the cities in which they are located and the page on which each entry appears.

Geographic Locations of MBRS Grantees FY 1987

Atlanta, Georgia	5
District of Columbia	3
Greensboro, North Carolina	2
Los Angeles, California, area	6
Nashville, Tennessee	4
New Orleans, Louisiana	3
New York City area	5
Puerto Rico	10
San Antonio, Texas	3

Traditional Programs

Alabama State University

Program Director

Shiva P. Singh, Ph.D.
Professor of Biology and
Director of Scientific
Research
Alabama State University
915 S. Jackson Street
Montgomery, Alabama 36195
(205) 293-4301

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

Susanta K. Ghorai, Ph.D.
(two undergraduates)

Thelma C. Ivery, Ph.D.
(two undergraduates)

Eddie G. Moore, Ph.D.
(one graduate; one undergraduate)

Shiva P. Singh, Ph.D.
(three graduates; one undergraduate)

Research Projects

Study of acid rain in Central Alabama by the proton-induced x-ray emission (PIXE) method.

The effect of selected oxidants on activities of sulfhydryl enzymes.

Analysis of mitogenic action of iron and biotin on retrovirus-transformed cells.

Monoclonal antibodies to the major outer membrane proteins of *Salmonella typhimurium*.

Selma University

Program Director

Bettaiya Rajanna, Ph.D.
Professor of Biological
Sciences
Academic Dean
Selma University
1501 Lapsley Street
Selma, Alabama 36701
(205) 872-8061

Degree(s) Offered
Associate's

Project Investigators Number of Student Participants

Kirit D. Chapatwala, Ph.D.
Shobha Sriharan, Ph.D.
(three undergraduates)

Bettaiya Rajanna, Ph.D.
Marvin V. Hobson, M.S.
Sharada Rajanna, M.S.
(four undergraduates)

Research Projects

Effect of mycobacterial extract on the immune system in mice.

Effect of metal toxicity on catecholamine uptake by rat tissues.

Talladega College

Program Director

Arthur L. Bacon, Ph.D.
Chairman
Division of Natural and Computational Sciences
Talladega College
627 W. Battle Street
Talladega, Alabama 35160
(205) 362-7652

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Arthur L. Bacon, Ph.D.
(four undergraduates)

Kwosun Chu, Ph.D.
(four undergraduates)

Research Projects

Effects of selected food and medicinal additives on sea urchin development.

Fluid dynamic behavior of pollutant deposition in human lungs.

Tuskegee University

Program Director

Julian E. Thomas, Ph.D.
Professor and Head of Biology Department
50 Carver Research Laboratory
Tuskegee University
Tuskegee Institute, Alabama 36088
(205) 727-8874

Degree(s) Offered
Bachelor's
Master's
D.V.M.

Project Investigators Number of Student Participants

H. H. Benford, Ph.D.
(one graduate; one undergraduate)

R. R. Dalvi, Ph.D.
(two undergraduates)

M. C. Datta, Ph.D.
(one graduate; one undergraduate)

J. P. Davidson, Ph.D.
(one graduate; one undergraduate)

E. Dixon, Ph.D.
(one graduate; one undergraduate)

R. Garg, Ph.D.
(one graduate; one undergraduate)

H. Goyal, Ph.D.
(one graduate; one undergraduate)

A. G. Ludwick, Ph.D.
(one graduate; two undergraduates)

Research Projects

Protein pattern changes preceding vitellogenin gene activation in fat body.

Comparative studies on toxicology of captan, captafol, and folpet.

Reverse hemoglobin switching in adult life.

The function of the *HisU* gene in *Salmonella typhimurium*.

Calcium and sodium metabolism in hypertensive dog erythrocytes.

Immunosuppressants and penetration of antibiotics into walled-off soft tissue.

Ductuli efferentes testis and epididymis in sperm maturation.

Therapeutic value of polynucleotide analogs from water soluble polymers.

(Continued on next page)

Tuskegee University—Continued

	V. B. Richardson, Ph.D. (one graduate; two undergraduates)	Cytogenetic and cytokinetic assessment of alkyl imidates.
	C. Stevens, Ph.D. (two graduates)	Arthropod borne spiroplasmas: Potential mammalian pathogenic agents.
	O. P. Verma, Ph.D. (one graduate; one undergraduate)	Prostacyclin release and uterine motility.
	L. P. Washington, Ph.D. (one graduate; one undergraduate)	Cytoskeletons of neurons exposed to drugs that induce schizophrenia.
	J. E. Webster, Ph.D. (two graduates)	The effects of hormones and electrolytes in hypertensive dogs.
	J. W. Williams, Ph.D. (two graduates; one undergraduate)	Chromosome rearrangements: Neoplasia and metastasis in *Rana pipiens*.

Northern Arizona University

Program Director	Project Investigators Number of Student Participants	Research Projects
Harold K. Speidel, Ph.D. Professor of Microbiology Department of Biological Sciences Northern Arizona University Box 5640 Flagstaff, Arizona 86011 (602) 523-7232, -7240 **Degree(s) Offered** Associate's Bachelor's Master's Ph.D.	Gerald Caple, Ph.D. (one graduate; one undergraduate)	Glucose specific electrode.
	Susan H. Foster, Ph.D. (two graduates)	A psycholinguistic analysis of Navajo "semilingualism."
	W. Chad Nye, Ph.D. Margaret-Ann Gartland, Ph.D. (two graduates; one undergraduate)	Phonological acquisition in the Native American Navajo child.
	T. Lon Owen, Ph.D. (two undergraduates)	Cold acclimation with age: In vivo and in vitro responses.
	Gilbert C. Pogany, Ph.D. (three undergraduates)	Effects of x-rays on mouse sperm: Long-term implications.
	O. Tacheeni Scott, Ph.D. Emmanuel T. Akporiaye, Ph.D. (three undergraduates)	Analysis of immune response in a selected Navajo population to the rickettsial agent *Coxiella burnetii*.
	Harold K. Speidel, Ph.D. (three undergraduates)	Factors involved in the removal of human pathogens from wastewater.

University of Arkansas at Pine Bluff

Program Director

Benjamin T. Duhart, Ph.D.
Professor of Chemistry
University of Arkansas at Pine Bluff
Box 92
Pine Bluff, Arkansas 71601
(501) 541-6724

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Benjamin T. Duhart, Ph.D.
(two undergraduates)

Carolyn Gaylord, Ph.D.
(two undergraduates)

Uttam K. Jagwani, Ph.D.
(two undergraduates)

Richard B. Walker, Ph.D.
(two undergraduates)

William M. Willingham, Ph.D.
(two undergraduates)

Research Projects

Development of a sensitive HPLC method to detect aflatoxins B_1, B_2, G_1, and G_2.

Stress management in college students.

Studies in benzopyran derivatives.

Investigations of oxazolidines as potential pro-drugs for ephedrine and pseudoephedrine.

Antineoplastic copper(II) and manganese(II) salicylates and copper(II) acetylsalicylates.

California State University, Dominguez Hills

Program Director

Laura J. Robles, Ph.D.
Professor of Biology
California State University, Dominguez Hills
1000 East Victoria Street
Carson, California 90747
(213) 516-3401, -3381

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

David J. Morafka, Ph.D.
(one graduate; one undergraduate)

Laura M. Phillips, Ph.D.
(one graduate; two undergraduates)

John W. Roberts, Ph.D.
(one graduate; one undergraduate)

Laura J. Robles, Ph.D.
(one graduate; two undergraduates)

George Wiger, Ph.D.
(one graduate; two undergraduates)

Research Project

Rattlesnake phylogenetics as a key to improved antivenin specificity.

Effects of ethambutol and clofazimine on cell-free systems of mycobacteria.

Mechanisms of genomic rearrangement.

Dynamics of photoreceptor membrane assembly and turnover.

Studies of DNA and its complexes with anticancer agents.

California State University, Long Beach

Program Director

James L. Jensen, Ph.D.
Associate Dean
School of Natural Sciences
California State University,
Long Beach
1250 Bellflower Boulevard
Long Beach, California
90840
(213) 498-4265

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Roger Acey, Ph.D.
(two undergraduates)

Dennis M. Anjo, Ph.D.
(two undergraduates)

J. A. Bourrett, Ph.D.
(one graduate; one undergraduate)

Jeffrey Cohlberg, Ph.D.
(one graduate; one undergraduate)

James L. Jensen, Ph.D.
(one graduate; one undergraduate)

Laura Kingsford, Ph.D.
(one graduate; one undergraduate)

Margaret Merryfield, Ph.D.
(one graduate; one undergraduate)

Research Projects

Metal binding proteins in *Artemia salina*.

Depth profiling of photoactive compounds in skin.

Regulation of glucose transport in germinating fungal spores.

Structure, assembly, and function of intermediate filaments.

Catalysis of hemiacetal breakdown.

Molecular mechanism of LaCrosse virus neutralization.

Regulation of branched chain alpha-keto acid dehydrogenase.

California State University, Los Angeles

Program Director

Anthony J. Andreoli, Ph.D.
Professor of Chemistry and
Biochemistry
California State University
5151 State University Drive
Los Angeles, California
90032
(213) 224-3127, -2447

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Anthony J. Andreoli, Ph.D.
(two graduates; two undergraduates)

Roger G. Bowers, Ph.D.
(one graduate; two undergraduates)

Douglas L. Currell, Ph.D.
Harold Goldwhite, Ph.D.
(two undergraduates)

Phoebe K. Dea, Ph.D.
(one graduate; one undergraduate)

Anthony Fratiello, Ph.D.
(one graduate; one undergraduate)

Research Projects

Metabolic regulation and enzymology of the nicotinamide adenine dinucleotide cycle in bacteria, and its relationship to DNA repair.

Ultrastructure and enzymology of melanization in fowl, fish, and amphibia; Barred Plymouth Rock melanocyte as a model for vitiligo.

Synthesis of allosteric effectors of hemoglobin; manipulation of hemoglobin oxygen affinity through chemical modification.

Membrane structure and dynamics. NMR studies on compounds of biological interest.

Nuclear magnetic resonance spectroscopy. Studies of the interactions of anticancer agents with deoxymononucleotides.

(Continued on next page)

California State University, Los Angeles—Continued

Raymond E. Garcia, Ph.D. (one graduate; two undergraduates)	Regulation of apolipoprotein and plasma lipoprotein metabolisms by dietary cholesterol.
Scott Grover, Ph.D. (two graduates; two undergraduates)	Enzyme kinetics and regulation in photosynthetic and respiratory pathways.
Carlos G. Gutierrez, Ph.D. (two graduates; two undergraduates)	Synthesis of therapeutic chelating agents via organotin intermediates, crown ethers, and biologically active substances.
Margaret C. Jefferson, Ph.D. (two graduates; two undergraduates)	Genetics of olfactory discriminating behavior and olfactory learning behavior in several species of Drosophila.
Richard E. Keys, Ph.D. (one graduate; two undergraduates)	Electron paramagnetic resonance study of hindered phosphorus and radicals as potential spin labels.
Genaro A. Lopez, Ph.D. (one graduate; two undergraduates)	Regulation of renin release by intrarenal cathecholamines and prostaglandins in the mammalian kidney.
Thomas P. Onak, Ph.D. (one graduate; two undergraduates)	Synthesis and properties of biologically active organoboron compounds.
Donald R. Paulson, Ph.D. (two undergraduates)	Model systems for biological oxygen transfer.
David Pearson, Ph.D. (two graduates; one undergraduate)	Biosynthesis and release of peptides in the central nervous system.
Betsy Peitz, Ph.D. (two graduates; one undergraduate)	Biochemistry of seminal proteins of mice and their role in spermatozoan metabolism and fertilization.
David Perrott, Ph.D. (one graduate; three undergraduates)	The auditory spatial mechanism and the processes by which other exteroceptive sensory systems perform their function.
Jean Phinney, Ph.D. (two graduates; three undergraduates)	Assessment and study of identity development in adolescents from varied ethnic groups.
Stanley H. Pine, Ph.D. (one graduate; one undergraduate)	Carbonyl methylenation using an organometallic reagent. Carbanion alkylation.
Joseph T. Seto, Ph.D. (two graduates; two undergraduates)	Biological and biochemical properties of the glycoproteins of paramyxoviruses.
Chick Tam, Ph.D. (two graduates; one undergraduate)	Biochemical mechanisms in Down syndrome and aging.

Charles R. Drew University of Medicine and Science

Program Director

Samuel J. Shacks, Ph.D., M.D.
Associate Dean for Research
Charles R. Drew University of Medicine and Science
1621 East 120th Street, Mail Point MP27
Los Angeles, California 90059
MBRS office: (213) 563-5906
Office of Research: (213) 563-5900

Degree(s) Offered
M.D.

Project Investigators Number of Student Participants

Daisy Carr, Ph.D.
(two undergraduates)

Mamdooh Ghoneum, Ph.D.
(two undergraduates)

Sastry Gollapudi, Ph.D.
(two undergraduates)

Clarence Grim, M.D.
(four undergraduates)

Pearl Grimes, M.D.
(two undergraduates)

Ramon Patel, M.D.
(two undergraduates)

Stephen Taylor, M.D.
(two undergraduates)

Research Projects

Effects of hallucinogens on meiotic and mitotic sister chromatid exchanges.

NK levels and tumor development in responsive and nonresponsive strains of mice.

Immunomodulatory effects of antibiotics: An in vitro and in vivo study.

Blood pressure in blacks: Twin studies.

Immunologic aberrations in vitiligo.

Characterization of disordered immunoregulation in lupus erythematosus and renal disease.

Cell-mediated immune responses to acute pneumonia in sickle cell disease.

East Los Angeles College

Program Director

Carcy L. Chan, Ph.D.
Professor of Chemistry
East Los Angeles College
1301 East Brooklyn Avenue
Monterey Park, California 91754
(213) 265-8602, -8850

Degree(s) Offered
Associate's

Project Investigators Number of Student Participants

Carcy L. Chan, Ph.D.
(six undergraduates)

Conrad M. Valdez, M.S.
Oscar A. Paez, M.S.
(four undergraduates)

Research Projects

Synthesis and biological studies of new analogs of methotrexate.

Superoxide: Halocarbons and bioorganic compounds.

Mount St. Mary's College

Program Director

Sister Annette Bower, Ph.D.
Chairman
Biological Sciences Department
Mount St. Mary's College
12001 Chalon Road
Los Angeles, California 90049
(213) 476-2237

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

Sister Annette Bower, Ph.D.
(two undergraduates)

Hallie Bundy, Ph.D.
(two undergraduates)

Mary Colavito, Ph.D.
(two undergraduates)

Joanne Krakow, Ph.D.
(two undergraduates)

Catherine Kwan, Ph.D.
(one undergraduate)

Eleanor Siebert, Ph.D.
(two undergraduates)

Research Projects

Mechanism of release of atrial peptide and osmoregulation.

The use of thiophenols to probe the active site of carbonic anhydrase.

Alterations in histone acetylation and effects on yeast chromatin structure.

Attention and self-control.

Attenuation and termination in the *lac* operon of *E. coli.*

Phase separation kinetics in model biological systems.

San Jose State University

Program Director

Robert A. Hicks, Ph.D.
Professor of Psychology
San Jose State University
125 South 7th Street
San Jose, California 95192
(408) 924-5659

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Robert G. Fowler, Ph.D.
(two graduates; two undergraduates)

Robert A. Hicks, Ph.D.
(two graduates; two undergraduates)

Raymond Kellman, Ph.D.
(one graduate; one undergraduate)

Frank D. Payne, Ph.D.
(one graduate; one undergraduate)

Herbert B. Silber, Ph.D.
(three undergraduates)

Sylvia Ann Veregge, Ph.D.
(one graduate)

Steven J. White, Ph.D.
(one graduate; one undergraduate)

Research Projects

Mutational specificity in *Escherichia coli.*

Sleep, diet, and motivational behaviors.

Synthesis of new polymeric biomaterials.

Masculinity, femininity, and adjustment.

Metallo-biochemistry.

Modulation of epileptiform activity by gonadal steroids.

Effect of cyclosporine A on T cell protein kinase and IL-2 gene activity.

University of California, San Diego

Program Director

Trevor McMorris, Ph.D.
Professor of Chemistry
University of California, San Diego
La Jolla, California 92093
(619) 534-4178

Degree(s) Offered
Bachelor's
Master's
Ph.D.
M.D.
Physiology/Pharmacology

Project Investigators Number of Student Participants

Willie C. Brown, Ph.D.
(two undergraduates)

Michael Cole, Ph.D.
(two undergraduates)

J. Anthony Deutsch, Ph.D.
(one undergraduate)

Richard Dutton, Ph.D.
(one undergraduate)

Stephen L. Foote, Ph.D.
(one graduate)

George Fortes, Ph.D.
(one undergraduate)

Fred Gage, Ph.D.
(two undergraduates)

David Gough, Ph.D.
(one undergraduate)

Robert N. Hamburger, Ph.D.
(one undergraduate)

Trevor McMorris, Ph.D.
(two undergraduates)

Katsumi Miyai, Ph.D.
(one undergraduate)

Ramon Pinon, Ph.D.
(two undergraduates)

Percy Russell, Ph.D.
(two undergraduates)

Research Projects

Mechanism of spore germination in bacteria.

Experimental ethnographic study of individuals with school-related learning problems.

Digestive enzyme inhibition and satiety.

Cellular mechanisms in the immune response.

Neural crigins of event-related potentials in monkeys.

Cardiac glycoside receptor structure and conformational dynamics.

Embryonic nerve cell transplantation in aged rats.

Bioengineering: Device for metabolic control in diabetes.

Analysis of human antibodies to phospholipase A.

Chemistry of some natural products.

Pathology of biliary secretion and cholestasis.

Protein phosphorylation and growth control in yeast.

Adenylate kinase isoenzymes.

University of California, Santa Cruz

Program Director

Barry J. Bowman, Ph.D.
Acting Director, MBRS Program
Associate Professor of Biology
Biology Board of Studies
Division of Natural Sciences
University of California, Santa Cruz
Santa Cruz, California 95064
(408) 429-2245, -4770

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Barry J. Bowman, Ph.D.
(one graduate; two undergraduates)

Phillip O. Crews, Ph.D.
(one graduate; two undergraduates)

Pradip K. Mascharak, Ph.D.
(one graduate; two undergraduates)

Charles L. Ortiz, Ph.D.
(one graduate; three undergraduates)

Clifton A. Poodry, Ph.D.
(one graduate; three undergraduates)

Victor Rocha, Ph.D.
(one graduate; three undergraduates)

Frank J. Talamantes, Ph.D.
(two graduates; three undergraduates)

Research Projects

Eukaryotic H^{+-}ATPases of plasma membranes and vacuoles.

Novel antitumor agents from marine Jaspidae sponges.

DNA degradation: Free radical chemistry of metal bleomycin analogues.

The physiology of natural fasting in young developing elephant seals.

Genetic control of cell interactions in development.

CA^{++-}binding proteins associated with mammary epithelial cell spreading.

Characterization of the prolactin receptor.

University of Southern Colorado

Program Director

Jerald L. Connelly, Ph.D.
Professor of Chemistry
University of Southern Colorado
2200 Bonforte Boulevard
Pueblo, Colorado 81001
(303) 549-2571, -2231

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Jerald L. Connelly, Ph.D.
(two undergraduates)

Rick M. Gardner, Ph.D.
(three undergraduates)

Paul J. Kulkosky, Ph.D.
(two undergraduates)

Paul Schnur, Ph.D.
(three undergraduates)

Research Projects

Role of copper in heme biosynthesis.

Internal and external aspects of obesity.

Neuropeptide control of ethanol intake.

Opiate effects on conditioned and unconditioned behavior.

Delaware State College

Program Director

Mildred Ofosu, Ph.D.
Department of Biology
Delaware State College
P.O. Box 626
Dover, Delaware 19901
(302) 736-3514

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Fatma M. Helmy, Ph.D.
(three undergraduates)

Albert B. Miller, Ph.D.
(four undergraduates)

Gustav A. Ofosu, Ph.D.
(two undergraduates)

Mildred D. Ofosu, Ph.D.
(three undergraduates)

Sadiq H. Wasfi, Ph.D.
(two undergraduates)

Research Projects

Pancreatic enzymes and their lipid substrates.

Detection versus control of stress-related variables.

Effect of platinum pyrimidines on mitotic and enzyme activity.

HLA molecular genotyping of blacks with Graves' disease.

Heteropolymetalate anions as anticancer agents.

Howard University

Program Director

George K. Littleton, Ph.D.
Associate Dean for Research Affairs
Howard University
Graduate School of Arts and Sciences
4th & College Streets, N.W.
Washington, D.C. 20059
(202) 636-7839, -7977

Degree(s) Offered
Bachelor's
Master's
Ph.D.
D.D.S.
M.D.
Pharmacy

Project Investigators Number of Student Participants

Ray J. Butcher, Ph.D.
Wayne S. Miles, Ph.D.
(one graduate; one undergraduate)

Joseph Cohen, Ph.D.
(one graduate)

Richard M. Duffield, Ph.D.
James W. Wheeler, Ph.D.
(two graduates; one undergraduate)

Sisir K. Dutta, Ph.D.
Ram Parsad, Ph.D.
(three graduates; two undergraduates)

Martin Feldman, Ph.D.
(one graduate; one undergraduate)

Adriana Gallardo-Carpentier, D.D.S.
Robert G. Carpentier, Ph.D.
(one graduate)

Felix Grissom, Ph.D.
(one graduate; one undergraduate)

Joshua B. Halpern, Ph.D.
(one graduate; one undergraduate)

Research Projects

Iron III model complexes with anomalous magnetic properties.

Further characterization of the adrenergic system of the rat retina.

Chemical releasers in Hymenoptera.

Neurobiological effects of electropollution: Physiological and genetic pathogenesis.

One- and two-electron reduction of aromatic aldehydes by low-valent metal ions.

Influence of chronic ethanol ingestion on acute cardiac effects of nicotine.

Somatomedin modulation by malnutrition and hypothyroidism during early growth.

Laser irradiation of biological systems.

(Continued on next page)

Howard University—Continued

	Jules P. Harrell, Ph.D. (two graduates)	Physiological effects of imagining active and passive coping strategies.
	Raymond L. Hayes Jr., Ph.D. (two graduates)	Calcification of nonmineralized tissue in vitro.
	Paul F. Hudrlik, Ph.D. Anne M. Hudrlik, Ph.D. (two graduates; one undergraduate)	Synthetic methods using organosilicon compounds.
	Michael J. Lewis, Ph.D. (two graduates; one undergraduate)	Aging and motivation: Biobehavioral and psychopharmacological studies.
	Dan E. Matsumoto, Ph.D. (one graduate; one undergraduate)	Adjustment of spindle to changes in muscle length.
	Joan C. Payne-Johnson, Ph.D. (two graduates)	Functional communication of normal aged from institutional and community-living settings.
	Richard Pointer, Ph.D. (one graduate)	Regulation of intermediary metabolism by levamisole.
	Robert C. Rosenberg, Ph.D. (one graduate; one undergraduate)	Dopamine beta-hydroxylase inhibition by antihypertensive and other compounds.
	Thomas E. Smith, Ph.D. (one graduate)	Chemistry of enzymatic carboxylation reactions.
	Cloyd Ovid Trouth, Ph.D. Maurice Odek-Ogunde, Ph.D. (one graduate; one undergraduate)	Role of superficial chemosensitive brainstem neurons in infant apnea.
	James S. Wilson, Ph.D. (one graduate; one undergraduate)	Anatomy and physiology of the MPTP animal model of Parkinson disease.
	John C. H. Yun, Ph.D. (one graduate; one undergraduate)	Role of calcium in a model of acute renal failure.

Howard University College of Medicine

Program Director	Project Investigators Number of Student Participants	Research Projects
Warren K. Ashe, Ph.D. Assistant Dean for Research Howard University College of Medicine 520 W Street, N.W. Washington, D.C. 20059 (202) 636-7818	W. Lena Austin, Ph.D. (one graduate)	In vivo effects of cytochalasin D in adult and developing OELN mice.
	Richard E. Blake, M.D. (one medical student)	Dexamethasone and sex hormone binding globulin.
	Robert G. Canada, Ph.D. (one graduate)	The relationship between calcium channels and pleiotropic drug resistance.

(Continued on next page)

Howard University College of Medicine—Continued

Degree(s) Offered Bachelor's Master's Ph.D. D.D.S. M.D. Pharmacy	Barry L. Gause, M.D. (one medical student)	Retinoids and immune function in the murine system.
	Wayne L. Greaves, M.D.	Vaginal douching and pelvic inflammatory disease.
	LaSalle D. Leffall Jr., M.D.	Human neoplastic colonic epithelium: Modulation of growth and differentiation.
	Jannet F. Lewis, M.D.	Aortic insufficiency: Noninvasive correlates of invasive hemodynamic changes.
	Reginald L. Peniston, M.D.	Isolated systolic hypertension: A chronic canine model.
	Otelio S. Randall, M.D.	Effects of age and blood pressure on cardiovascular function.
	Sunita B. Saxena, M.D.	Partner pregnancy related experiences—black male adolescents.
	Kenneth R. Scott, Ph.D. (one undergraduate)	The mechanism and enzyme inhibition kinetics of valproic acid and its spiro analogues.

University of the District of Columbia

Program Director	Project Investigators Number of Student Participants	Research Projects
Norman S. Kondo, Ph.D. Professor of Chemistry University of the District of Columbia 4200 Connecticut Avenue, N.W. Washington, D.C. 20008 (202) 727-2184	Carolyn Cousin, Ph.D. (two undergraduates)	*Schistosoma mansoni:* A comparative study of in vitro and in vivo schistosomules.
	Marion Johnson-Thompson, Ph.D. (two undergraduates)	Laser photolysis of SV40 and continuing studies of the mechanism of action of 5-AzaCR.
	Norman S. Kondo, Ph.D. (two undergraduates)	Conformational studies of constituents of nucleic acids.
Degree(s) Offered Associate's Bachelor's Master's (Communication Arts and Sciences)	Patricia Thorstenson, Ph.D. (two undergraduates)	Phosphinamides: Potential precursors of phosphorus-based amino acid analogs.
	Anna Faye Vaughn-Cooke, Ph.D. Wilhelmina Reveron, Ph.D. (four graduates)	The emergence of semantic categories in the language of black children.

Bethune-Cookman College

Program Director

Munir A. Rahmani, Ph.D.
Professor of Biology
Division of Science and Mathematics
Bethune-Cookman College
640 Second Avenue
Daytona Beach, Florida 32015
(904) 255-1401 X284 or 313

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Wu-Nan Kuo, Ph.D.
(four undergraduates)

Ram Nayar, Ph.D.
(two undergraduates)

Munir A. Rahmani, Ph.D.
(three undergraduates)

Thomas O. Richardson, Ph.D.
(four undergraduates)

Research Projects

Mammalian stimulatory protein kinase modulators and modulator-dependent protein kinases.

Isozymes of xenotropic virus-expressing mice.

Study of the physiological role of *m*- and *p*-octopamine in the regulation of blood pressure.

Effect of substitution at the methylenedioxy group upon activity of oxolinic acid.

Florida A & M University

Program Director

Johnnie Lee Early Jr., R.Ph., Ph.D.
Assistant Dean for Research
College of Pharmacy and Pharmaceutical Sciences
Florida Agricultural and Mechanical University
P.O. Box 367
Tallahassee, Florida 32307
(904) 599-3910, -3189, -3301

Degree(s) Offered
Pharmacy (B.S.)
Ph.D. (Pharmaceutical Sciences)
Doctor of Pharmacy (Pharm.D.)

Project Investigators Number of Student Participants

Peter T. Cottrell, Ph.D.
(two undergraduates)

Johnnie Lee Early Jr., R.Ph., Ph.D.
(two graduates; two undergraduates)

Thomas J. Fitzgerald, Ph.D.
(one graduate; two undergraduates)

Henry J. Lee, Ph.D.
(one graduate; two undergraduates)

Abraham P. Ollapally, Ph.D.
(four undergraduates)

Kinfe K. Redda, Ph.D.
(two undergraduates)

Karam F. A. Soliman, Ph.D.
(two graduates; two undergraduates)

Lambros P. Tterlikkis, Ph.D.
James L. Day, Ph.D.
(two graduates; two undergraduates)

Ralph W. Turner, Ph.D.
(two undergraduates)

Research Projects

Colchicine derivatives as anticancer agents.

Effect of selenium on hepatic glucose output.

Electro-oxidation studies of nucleosides.

Derivatives of corticosteroid metabolites.

Unsaturated ketodeoxy-hexosyl-halouracils as anticancer agents.

Synthesis and biological activity of some N-aminotetrahydropyridines.

Regulation of the adrenal cortex during stress.

Identification of tumor markers for small cell carcinomas of the lung.

Cadmium-113 NMR and structural studies of ceruloplasmin.

Florida International University

Program Director

Martin L. Tracey Jr., Ph.D.
Professor of Biological Sciences
Florida International University
University Park
Miami, Florida 33199
(305) 554-2201

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigator Number of Student Participants

Charles H. Bigger, Ph.D.
(one graduate; one undergraduate)

Richard A. Bone, Ph.D.
John T. Landrum, Ph.D.
(two undergraduates)

Leonard S. Keller, Ph.D.
(two undergraduates)

Janet Lineback, Ph.D.
(two undergraduates)

Martin L. Tracey Jr., Ph.D.
Case K. Okubo, Ph.D.
Peter A. Pechan, D. Phil.
(two graduates; two undergraduates)

Research Projects

Comparative immunorecognition and alloimmunity.

Composition and organization of the macular pigments.

Preparation of anilines and nitrogen-containing heterocyclic compounds by the nucleophilic addition of nitrogen anions to arene chromium tricarbonyl complexes.

Structural studies of human lactoferrin.

Molecular probes of *Anthia squamipinnis* sex reversal.

Albany State College

Program Director

Clifford L. Smith, Ph.D.
Professor of Chemistry
Department of Biology and Chemistry
Albany State College
504 College Drive
Albany, Georgia 31705
(912) 430-4823

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Bruce H. Fort, Ph.D.
(three undergraduates)

Clifford L. Smith, Ph.D.
Edwin A. Green, Ph.D.
(four undergraduates)

Research Projects

Studies on the blood-brain barrier at the level of the hypothalamic arcuate nucleus.

Organosilicon biomedical research.

Atlanta University Center

Program Director

Joe Johnson Jr., Ph.D.
Vice Chancellor for Research and Development
Atlanta University Center
360 Westview Drive, S.W.
Atlanta, Georgia 30310
(404) 525-5668

Participating Institutions:

Atlanta University
223 James P. Brawley Drive, S.W.
Atlanta, Georgia 30314
(404) 681-0251

Clark College
240 James P. Brawley Drive, S.W.
Atlanta, Georgia 30314
(404) 681-3080

Morehouse College
830 Westview Drive, S.W.
Atlanta, Georgia 30310
(404) 681-2800

Morehouse School of Medicine
720 Westview Drive, S.W.
Atlanta, Georgia 30310
(404) 752-1500

Morris Brown College
643 Martin Luther King Jr. Drive, S.W.
Atlanta, Georgia 30314
(404) 525-7831

Spelman College
350 Spelman Lane, S.W.
Atlanta, Georgia 30314
(404) 681-3643

Degree(s) Offered
Bachelor's
Master's
Ph.D.
M.D.
D.A. (Doctor of Arts)

Project Investigators Number of Student Participants

Errol Archibold, Ph.D.
(one undergraduate)

Judith Bender, Ph.D.
(two undergraduates)

Nripendra K. Bose, Ph.D.
(two undergraduates)

Beatriz Cardelino, Ph.D.
(one graduate; one undergraduate)

Clarence Clark, Ph.D.
(one graduate; one undergraduate)

John Hall Jr., Ph.D.
(one graduate; one undergraduate)

Grace Han, Ph.D.
(two undergraduates)

John Haynes, Ph.D.
(one graduate; two undergraduates)

Joe Johnson Jr., Ph.D.
(one graduate; two undergraduates)

Betty Jones, Ph.D.
(one graduate; one undergraduate)

Arun Misra, Ph.D.
(one undergraduate)

Rosalyn M. Patterson, Ph.D.
(one graduate; one undergraduate)

Jeanne Stahl, Ph.D.
(two undergraduates)

Isiah Warmer, Ph.D.
(one graduate; one undergraduate)

Research Projects

Isolation and characterization of cloned renin cDNA from the uterus of rabbits.

Microbial production of nutritional protein.

Synthesis and biological evaluation of Imp-dehydrogenase inhibitors.

Theoretical study of metal-nucleotide interactions.

Maintenance of relaxed and stringent plasmid DNA in bacteria cells.

A spectroscopic study of wobble structures in nucleic acid bases.

Immobilization and chemical modification of fructose-1, 6-diphosphatase.

Biochemical characterization of sickle cell membranes.

Genetic engineering of toxin A vaccines.

Schistosomiasis: Biology and host-parasite relationship of schistosome Miracidia.

Thermophilic bacterial viruses from Clostridia.

Free radical alterations of DNA and chromosome structure.

Early brain damage and recovery of functions.

Bacteria identification by multiparameter fluorescence.

Morehouse School of Medicine

Program Director

David W. Hein, Ph.D.
Associate Professor and Chairman
Department of Pharmacology
Morehouse School of Medicine
720 Westview Drive, S.W.
Atlanta, Georgia 30310-1495
(404) 752-1708

Degree(s) Offered
M.D.

Project Investigators Number of Student Participants

Research Projects

Gordon B. Bailey, Ph.D. (one graduate)	Interaction of *Entamoeba histolytica* with mammalian cells.
Mohamed A. Bayorh, Ph.D. (one undergraduate)	Cardiovascular and hemodynamic responses to chronic phencyclidine.
Kamla Dutt, Ph.D.	Human pigment epithelial culture, a model for retinitis pigmentosa.
Sandra Harris-Hooker, Ph.D.	Influence of extracellular matrix on regenerating vascular cells.
David W. Hein, Ph.D. (one graduate)	Genetic predisposition to arylamine-induced genotoxicity.
Gordon J. Leitch, Ph.D. (one undergraduate)	Control of mucus secretion by isolated mammalian gastrointestinal cells.
David R. Mann, Ph.D. (one undergraduate)	Mechanism of stress-induced testicular hyposensitivity.
Douglas F. Paulsen, Ph.D.	Morphogenetic competence of limb bud mesoderm.
Rajagopala Sridaran, Ph.D.	Mechanism of action of dihydrotestosterone in luteolysis during pregnancy.
Beverly D. Taylor, M.D. (two medical students)	Exploration of characteristics associated with Alzheimer patients in the black community.
Paul Urso, Ph.D.	Functional properties of immune cells after ontogenic exposure to benzo(a)pyrene.
Evan F. Williams, Ph.D.	Role of nucleoside transport in cardiovascular function.

Savannah State College

Program Director

Chukwudi Obi Emeh, Ph.D.
Professor of Biology
Department of Biology and Life Sciences
Savannah State College
P.O. Box 20503
Savannah, Georgia 31404
(912) 356-2313, -2315

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

Chukwudi Obi Emeh, Ph.D.
Joseph P. Richardson, Ph.D.
(six undergraduates)

Mancherry P. Menon, Ph.D.
Willie G. Tucker, Ph.D.
(three undergraduates)

Govinden K. Nambiar, Ph.D.
(three undergraduates)

Kamalakar B. Raut, Ph.D.
(two undergraduates)

Harpal Singh, Ph.D.
Frissell R. Hunter, Ph.D.
Thomas R. Kozel, Ph. D.
(five undergraduates)

Bernard L. Woodhouse, Ph.D.
(three undergraduates)

Research Projects

Marine algal metabolites.

Radioimmunoassay for lactate dehydrogenase isoenzymes.

Fertility control by superactive analogs of LH-RH in males.

Synthesis of compounds related to perhexlins as possible cardiovascular agents.

Sperm morphology assay for detection of mutagens.

Possible mechanisms of action of timolol maleate.

Spelman College

Program Director

Albert N. Thompson Jr., Ph.D.
Assistant Professor of Chemistry
Spelman College
350 Spelman Lane, S.W.
Atlanta, Georgia 30314-4399
(404) 681-3643 x560
Lab: (404) 523-5153

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Gladys S. Bayse, Ph.D.
(one undergraduate)

Cornelia D. Gillyard, D.A.
(one undergraduate)

Carl R. Henrickson, Ph.D.
(two undergraduates)

Lycurgus L. Muldrow, Ph.D.
(one undergraduate)

Albert N. Thompson Jr., Ph.D.
(two undergraduates)

Research Projects

A study of arsenic detoxification by mammalian tissues.

Spectroscopic investigation of arsenate, MAA, and DMAA and their derivatives.

A comparison of methods for eliciting a hypometabolic state.

Molecular biology of *Clostridium difficile*.

The synthesis of para-substituted meso-tetraphenylporphyrins and a study of their solution behavior.

University of Hawaii at Hilo

Program Director

William Higa, Ph.D.
Associate Professor of Psychology
University of Hawaii at Hilo
523 W. Lanikaula Street
Hilo, Hawaii 96720
(808) 961-9439

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Daniel E. Brown, Ph.D.
Jerry L. Johnson, Ph.D.
Craig J. Severance, Ph.D.
(six undergraduates)

John G. Chan, Ph.D.
(two undergraduates)

Don E. Hemmes, Ph.D.
(two undergraduates)

Research Projects

The development of obesity in children of native Hawaiian ancestry.

Pathogenic Leptospira in Hawaiian freshwater ponds.

Fluorescence and transmission electron microscopy of calcium-mediated secretion.

University of Hawaii at Manoa

Program Director

Frederick C. Greenwood, Ph.D., D.Sc.
Pacific Biomedical Research Center
University of Hawaii at Manoa
1993 East-West Road
Honolulu, Hawaii 96822
(808) 948-8838, -8268

Degree(s) Offered
Bachelor's
Master's
Ph.D.
M.D.

Project Investigators Number of Student Participants

Harry Ako, Ph.D.
(one undergraduate)

Carol Bagnell, Ph.D.
(one undergraduate)

Leslie Bailey, Ph.D.
(one undergraduate)

Robert Blanchard, Ph.D.
(two undergraduates)

Gillian Bryant-Greenwood, Ph.D.
(two undergraduates)

Clara Ching, Ph.D.
(one undergraduate)

Agnes Fok, Ph.D.
(two undergraduates)

Barbara Gibbons, Ph.D.
(one undergraduate)

Research Projects

Satiety and a 50,000 Dalton anorexigenic protein.

Paracrine control of follicle and corpus luteum.

Neurobehavioral regulation of sex and aggression.

Prevention of doxorubicin-induced heart muscle damage.

Biochemistry and physiology of relaxin.

Natural killer cell-interferon system and cancer in Hawaiians.

Autophagocytosis: A biochemical and morphological study.

Activation of motility in demembranated teleost and sea urchin spermatozoa.

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University of Hawaii at Manoa—Continued

	Ronald Hammer, Ph.D. (one undergraduate)	Sex hormone-dependent changes of opiate receptor density in rat brain.
	Yoshitsugi Hokama, Ph.D. (two undergraduates)	C-reactive protein (CRP) effect on metabolic and killing functions of macrophages and neutrophils.
	Robert Kinzie III, Ph.D. (one undergraduate)	Strain specificity in the photosynthetic responses of symbiotic algae.
	Howard Mower, Ph.D. Morton Mandel, Ph.D. (three undergraduates)	Environmental factors contributing to cancer.
	Paul Scheuer, Ph.D. (one undergraduate)	Biologically active constituents of marine invertebrates.
	Barbara Siegel, Ph.D. Sanford Siegel, Ph.D. (three undergraduates)	Adaptive potentials of organisms to change in the physicochemical environment.

Chicago State University

Program Director	Project Investigators Number of Student Participants	Research Projects
Augusta A. Mylroie, Ph.D. Professor of Chemistry Department of Physical Sciences Chicago State University 95th Street at King Drive Chicago, Illinois 60628 (312) 995-2491 **Degree(s) Offered** Bachelor's Master's	Linda Austin, Ph.D. (one undergraduate)	The neurotoxic effects of lead.
	Floyd W. Banks, Ph.D. (one graduate; three undergraduates)	Exercise hypertrophy and neuromuscular transmission.
	Richard Beil, Ph.D. (one graduate; one undergraduate)	Functional aspects of rat bulbourethral gland secretion.
	Susan H. Ford, Ph.D. (two undergraduates)	Biosynthesis of vitamin B_{12}.
	Carol Henry, Ph.D. (two undergraduates)	Genetics, variability, and pathogenicity of *Ustilago hordei.*
	Michael N. Mimnaugh (one graduate; two undergraduates)	Membrane biochemistry; beta-adrenergic blockers.
	Augusta A. Mylroie, Ph.D. (two graduates; two undergraduates)	Metabolic interactions between essential and toxic metals.
	Warren V. Sherman, Ph.D. (two undergraduates)	Photochemistry of bacteriorhodopsin.

Kentucky State University

Program Director

Tejinder S. Kochhar, Ph.D.
Professor of Biology
Division of Mathematics and Sciences
Kentucky State University
Frankfort, Kentucky 40601
(502) 227-6070

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

Tejinder S. Kochhar, Ph.D.
(three undergraduates)

Research Project

Induction of chromosome changes by environmental agents in cultured mammalian cells.

Dillard University

Program Director

Boake L. Plessy, Ph.D.
Professor of Chemistry and Chairman
Division of Natural Sciences
Dillard University
2601 Gentilly Boulevard
New Orleans, Louisiana 70122
(504) 283-8822 x246 or 247

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Kathryn S. Aultman, Ph.D.
(three undergraduates)

Ruby Broadway, Ph.D.
(three undergraduates)

Boake L. Plessy, Ph.D.
(six undergraduates)

Research Projects

Regulation of the fatty acid biosynthetic pathway.

Localization of contractile proteins in differentiated rabbit heart cells.

Characterization of corneal mucoproteins; host-parasite relationships in the American cockroach.

Southern University, Baton Rouge

Program Director

Fred A. Christian, Ph.D.
Director
Health Research Center
Southern University at Baton Rouge
P.O. Box 9921
Southern Branch Post Office
Baton Rouge, Louisiana 70813
(504) 771-3601, -4240

Degree(s) Offered
Associate's
Bachelor's
Master's
Ph.D. (Education)
Ed.D.

Project Investigators Number of Student Participants

Fred A. Christian, Ph.D.
(one graduate; two undergraduates)

Earl Doomes, Ph.D.
(two undergraduates)

Syed Naqvi, Ph.D.
Nusrat Naqvi, Ph.D.
(two graduates; two undergraduates)

Fitzgerald Spencer, Ph.D.
(four undergraduates)

Lacey Tillotson, Ph.D.
Betty Washington, Ph.D.
(four undergraduates)

Research Projects

Pesticide effects on intramolluscan development of *Fasciola hepatica*.

Fluorescent carcinogen-like bridged annulenes.

Cadmium and lead toxicity and accumulation in selected tissues of laboratory exposed juvenile and adult crayfish.

The modifying potential of the pineal hormone melatonin, when measured against two stress factors (dinoseb and crowding), on the body temperature circadian rhythm during estrous cyclicity.

Sociocultural and behavioral aspects of coping with adult-onset diabetes.

Southern University, New Orleans

Program Director

Richard J. Majeste, Ph.D.
Professor of Chemistry
Southern University at New Orleans
6400 Press Drive
New Orleans, Louisiana 70126-0001
(504) 282-4401 x250

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

Stanley B. Boertje, Ph.D.
(two undergraduates)

Richard J. Majeste, Ph.D.
(four undergraduates)

Mohindar S. Ogra, Ph.D.
(two undergraduates)

Research Projects

Effects of leukotrienes and other vasoactive drugs on the blood-brain barrier of rats.

High resolution x-ray studies of opiates and receptor mapping.

Ganglion cell population and axon morphology of rat visual system.

Southern University, Shreveport

Program Director

Leonard Wilmer, M.S.
Chairman
Natural Science Division
Southern University at Shreveport
3050 Martin Luther King Jr. Drive
Shreveport, Louisiana 71107
(318) 674-3408

Degree(s) Offered
Associate's

Project Investigators Number of Student Participants

Emmanuel Igbokwe, Ph.D.
(four undergraduates)

Research Projects

Genetics of enzyme polymorphism in mosquito vectors of viral encephalitis.

Xavier University of Louisiana

Program Director

Cheryl L. Klein, Ph.D.
Assistant Professor of Chemistry
Xavier University of Louisiana
7325 Palmetto Street
New Orleans, Louisiana 70125
(504) 486-7411 x377

Degree(s) Offered
Bachelor's
Pharmacy
Pharm.D.

Project Investigators Number of Student Participants

Bhaskar Chaudhuri, Ph.D.
(two undergraduates)

Vimal Kishore, Ph.D.
(three undergraduates)

Cheryl L. Klein, Ph.D.
(two undergraduates)

Joseph A. Melcher, Ph.D.
(two undergraduates)

Richard F. Ochillo, Ph.D.
(four undergraduates)

Sally O'Connor, Ph.D.
(two undergraduates)

Joseph Olubadewo, Ph.D.
(three undergraduates)

Research Projects

Improved therapy by transdermal delivery of beta blockers.

Endogenous copper in acute and chronic inflammation.

Experimental electron density studies of neuroleptic drugs.

Sickle cell disease and auditory functioning.

Altered vascular and cardiovascular processes in hypertension.

Role of cysteine proteinases in glomerulonephritis.

Metabolic-based cardiovascular changes in diabetes.

Wayne State University

Program Director

Joseph C. Dunbar, Ph.D.
Professor of Physiology
MBRS Program
5275 Scott Hall
Wayne State University
Detroit, Michigan 48201
(313) 577-1534

Degree(s) Offered
Bachelor's
Master's
Ph.D.
M.D.
Pharmacy
Nursing
Physical Therapy
Medical Technology

Project Investigators Number of Student Participants

Jon Banning, Ph.D.
(one graduate; three undergraduates)

Robin Barraco, Ph.D.
(one graduate; two undergraduates)

Robert F. Berman, Ph.D.
(two undergraduates)

Joseph C. Dunbar, Ph.D.
(one graduate; two undergraduates)

Morris Goodman, Ph.D.
(two undergraduates)

Joseph L. Jacobson, Ph.D.
(two undergraduates)

James M. Jay, Ph.D.
(one graduate; two undergraduates)

David Lawson, Ph.D.
(one graduate; one undergraduate)

Myron A. Leon, Ph.D.
(two undergraduates)

Mary A. Marrazzi, Ph.D.
(one graduate; two undergraduates)

Hiroshi Mizukami, Ph.D.
(one graduate; two undergraduates)

Sunil Palchaudhuri, Ph.D.
(one undergraduate)

John Phillis, Ph.D.
(one graduate; one undergraduate)

Morton Raban, Ph.D.
(one graduate; two undergraduates)

Jeffrey Ram, Ph.D.
(three undergraduates)

Vera Righthand, Ph.D.
(one undergraduate)

Robert S. Shepard, Ph.D.
(one graduate; two undergraduates)

Albert Siegel, Ph.D.
(two graduates; one undergraduate)

Ann Sodja, Ph.D.
(one graduate; one undergraduate)

Robert Stephenson, Ph.D.
(two undergraduates)

Curtis J. Swanson, Ph.D.
(one undergraduate)

Alice M. Young, Ph.D.
(two undergraduates)

Research Projects

Biochemical pharmacology of biologically active quinones.

Direct determination of angiotensin in the brain.

Role of synaptic phosphoproteins in experimental epilepsy.

Regulation of tissue sensitivity to glucagon.

Fetal globin genes: Evolution of ontogenetic programs.

Effect of halogenated biphenyls on early childhood functioning.

Mode of action of diacetyl as an antimicrobial agent.

Prolactin and mammary tumor incidence.

Enzyme-antibody conjugates toxic to Pseudomonas.

Central nervous system glucostat and insulin hypoglycemia.

Image analysis and intercellular properties.

Drug resistance in *Pseudomonas aeruginosa*.

Action of psychoactive drugs on cerebral cortex.

Conformational control of ionophoric activity.

Role of peptide activation of an identified neuron.

Role of viral proteins in early stages of infection.

Early and long-term effects of tricuspid valvulectomy.

The nature and significance of pseudovirion formation.

Contractile protein gene expression during development.

Photo transduction mechanism: A genetic approach.

Myocardial ischemia and liquid crystal thermography.

Stimulus properties of drugs of abuse.

Fond Du Lac Reservation, University of Minnesota Medical School

Program Directors

Donald E. Wiesen
Joanne Black, Ph.D.
Directors, Ni-Shou-Gabawag
Room 161
University of Minnesota
Medical School
Fond Du Lac Reservation
Duluth, Minnesota 55812
(218) 879-0241

Assistant to the Directors:
Ms. Sherrill Petite
(218) 726-8876

Degree(s) Offered
Bachelor's
Master's
Ph.D.
M.D.

Project Investigators Number of Student Participants

Arthur Johnson, Ph.D.
(two undergraduates)

Ed Knych, Ph.D.
(one undergraduate)

Robert S. Pozos, Ph.D.
Eva Olson
(two undergraduates)

Lorentz Wittmers, Ph.D.
Edward Haller, Ph.D.
Paul Royce, Ph.D.
(two undergraduates)

Research Projects

Cellular and molecular changes associated with decreased immunity in aging mice.

Ethanol and blood vessels: Role of endothelium.

Electrophysiologic studies of chronic ethanol exposure.

Adrenal contribution to the regulation of glucose metabolism in the genetically obese mouse.

Jackson State University

Program Director

Robert W. Mack, Ph.D.
Dean, School of Science and Technology and Professor of Biology
Jackson State University
1400 J. R. Lynch Street
Jackson, Mississippi 39217
(601) 968-2153

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Ravi Bhatnagar, Ph.D.
(one graduate; two undergraduates)

Lai-Man Chan, Ph.D.
(two graduates; two undergraduates)

Fred Nelson, Ph.D.
(one graduate; two undergraduates)

Eric Noe, Ph.D.
(one graduate; two undergraduates)

Richard Sullivan, Ph.D.
(one graduate; two undergraduates)

Hiroyasu Tachikawa, Ph.D.
(two graduates; two undergraduates)

Charles Trottman, Ph.D.
(one graduate; two undergraduates)

Research Projects

Nitrogen pumped dye laser in ophthalmic surgery.

Interaction of pyruvate kinase isozymes with actin-containing filaments.

Evaluation of Turbellaria planarians as biological agents for regulating populations of medically important Culicidae (mosquitoes).

Oxygen-17 and sulfur-33 NMR II; dynamic NMR studies.

NMR studies of intact sickle cells.

In situ Raman spectroscopic studies of redox proteins and their model.

Role of calmodulin in the neurotoxicity of chlordecone and chlordecone alcohol.

Tougaloo College

Program Director

Asoka Srinivasan, Ph.D.
Professor of Biology
Natural Sciences Division
Tougaloo College
Tougaloo, Mississippi 39174
(601) 956-7943 (direct)
(601) 956-4941 x233

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Gerald Bruno, Ph.D.
(two undergraduates)

Bam Mehrotra, Ph.D.
(two undergraduates)

Asoka Srinivasan, Ph.D.
(two undergraduates)

Research Projects

EPR study of conformational changes in vanadyl-IV-labeled thermolysin.

Effect of organochlorines on mitochondrial subfractions.

Control of insect reproduction: Development and activity of sex pheromone-producing cells of Lepidoptera.

Lincoln University, Missouri

Program Director

Nathan H. Cook, Ph.D.
Professor and Head
Department of Natural Sciences and Mathematics
Lincoln University
820 Chestnut Street
Jefferson City, Missouri 65101
(314) 681-5128, -5071

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

William M. Beneke, Ph.D.
Benjamin F. Timson, Ph.D.
(two undergraduates)

Nathan H. Cook, Ph.D.
(two undergraduates)

Herman T. Miller, Ph.D.
(two undergraduates)

Research Projects

Atrophy and rehabilitation of skeletal muscle.

Cellular and cytogenetic effects of chemical carcinogens on atrophy and rehabilitation of skeletal muscle.

Purification of a hyperresponsiveness factor from hog kidney.

Montana State University

Program Director

David M. Young, D.V.M., Ph.D.
Professor of Comparative Pathology
Coordinator, Biomedical Research
207 Montana Hall
Montana State University
Bozeman, Montana 59717
(406) 994-5552 (a.m.)
(406) 994-4705 (p.m.)

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Research Projects

John J. Cardellina, Ph.D. William A. Arensmeyer, Ph.D. (four undergraduates)	Chemistry and pharmacology of native plants from Montana and the northern Rocky Mountains.
Patricia K. Crowle, Ph.D. (one graduate)	Mast cells in wound and bone fracture healing.
Jim E. Cutler, Ph.D. (one undergraduate)	Molecular biology of control and regulation of morphogenesis of *Candida albicans*.
Walter E. Hill, Ph.D. (two undergraduates)	Probes of ribosomal structure and function.
Robert R. Madsen, B.S. (two undergraduates)	Toxicity of magnesite in the Crow Indian Reservation water systems.
James A. McMillan, Ph.D. (one undergraduate)	Organization of spinal reflexes.
Bradford C. Mundy, Ph.D. (one graduate)	Synthesis of bioactive natural products and their analogs.
Rosemary C. Newman, Ph.D. (one graduate)	Effect of soluble grain fiber on blood cholesterol.
Charles M. Paden, Ph.D. (one undergraduate)	Monoclonal antibodies to neurosecretory cells.
Dwight E. Phillips, Ph.D. (one undergraduate)	Alcohol-induced effects in the developing CNS: Glial cells and myelin.
Barbara P. Robers, Ph.D. (one undergraduate)	Effect of insulin and epidermal growth factor of keratinocytes from diabetic mice.
David C. Sands, Ph.D. (one undergraduate)	Rapid microbiological prescreens for antiviral activity in a plant breeding program.
Gary A. Strobel, Ph.D. (one undergraduate)	Antibiotic peptides from plant-associated pseudomonads.
Guylyn R. Warren, Ph.D. (one undergraduate)	Use of rapid bioassays as monitors of potentially toxic chemicals.
David E. Worley, Ph.D. (two undergraduates)	A comparison of serologic and parasitologic techniques for detection of trichinosis.
David M. Young, D.V.M., Ph.D. (one undergraduate)	The pathogenesis of osteopetrosis and skeletal abnormalities.

Rutgers—The State University of New Jersey

Program Director

Barry R. Komisaruk, Ph.D.
Professor II, Institute of Animal Behavior
MBRS Office—Graduate School, Newark
Rutgers—The State University of New Jersey
Room 404, Hill Hall
Newark, New Jersey 07102
(201) 648-5772

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Mei-Fang Cheng, Ph.D.
(one graduate; one undergraduate)

Harvey Feder, Ph.D.
(one graduate; one undergraduate)

Gerald Frenkel, Ph.D.
(one graduate; one undergraduate)

Ian Fryer, Ph.D.
(one graduate; one undergraduate)

Elsie Gulick, Ph.D.
(one graduate)

Ronald Hart, Ph.D.
(one graduate; one undergraduate)

G. Miller Jonakait, Ph.D.
(one graduate; one undergraduate)

Frank Jordan, Ph.D.
(one graduate; one undergraduate)

Barry R. Komisaruk, Ph.D.
(one graduate; one undergraduate)

Richard Mendelsohn, Ph.D.
(one graduate; one undergraduate)

Joan Morrell, Ph.D.
(one graduate; one undergraduate)

Judith Weis, Ph.D.
(two undergraduates)

Research Projects

Neural and endocrine basis of self-stimulation of ovarian development.

Development of brain muscarinic cholinergic receptors.

Interaction of mercury and selenium compounds.

Drug-binding site interactions at the central GABA/BZR receptor.

Evaluation of the ADL self-care scale for persons with multiple sclerosis.

Mechanism of poly(A) site utilization.

Control of neurotransmitter phenotype expression.

Studies of enzymes that decarboxylate pyruvate.

Analgesia produced by birth canal stimulation.

Lipid control of membrane protein organization.

Characterization of steroid hormone concentrating neurons by their axonal projections.

Bioaccumulation and effects of tributyltin on the mummichog, *Fundulus heteroclitus*.

College of Santa Fe

Program Director

Richard I. Wark, Ph.D.
Associate Professor of Psychology
Department of Social Sciences
College of Santa Fe
St. Michael's Drive
Santa Fe, New Mexico 87501
(505) 473-6385

Degree(s) Offered
Associate's
Bachelor's
Master's (MBA only)

Project Investigators Number of Student Participants

Richard I. Wark, Ph.D.
Elizabeth Downes, Ph.D. candidate
(four undergraduates)

Research Projects

Ethnicity and psychological distress.

Navajo Community College

Program Director

Lora M. Shields, Ph.D.
Visiting Professor
Department of Sciences and Mathematics
Navajo Community College
Shiprock, New Mexico 87420
(505) 368-5164, -5291

Degree(s) Offered
Associate's

Project Investigators Number of Student Participants

Mark Bauer, Ph.D.
(three undergraduates)

Lora M. Shields, Ph.D.
(three undergraduates)

Research Projects

Public health impact of Navajo area energy projects.

Lead-210 and radium-226 in Navajo teeth and in sheep teeth and bone in the Navajo uranium mining area.

New Mexico Highlands University

Program Director

Henry Schreiber, Ph.D.
Associate Professor of Psychology
MBRS Program
New Mexico Highlands University
Las Vegas, New Mexico 87701
(505) 425-7511 x320 or 364

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Henry Schreiber, Ph.D.
(one graduate; two undergraduates)

Research Projects

Effect of early experience on amphetamine sensitization.

New Mexico State University

Program Director

Glenn D. Kuehn, Ph.D.
Professor of Chemistry
New Mexico State University
Box 3C
Las Cruces, New Mexico 88003
Office: (505) 646-1015
Secretary: (505) 646-2424
Laboratory: (505) 646-4722

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Marvin H. Bernstein, Ph.D.
(one graduate; three undergraduates)

Edward R. Birnbaum, Ph.D.
(one graduate; two undergraduates)

James L. Botsford, Ph.D.
(one graduate; two undergraduates)

Edmund R. Casillas, Ph.D.
(one graduate; three undergraduates)

Frank S. Guziec Jr., Ph.D.
(one graduate; one undergraduate)

James H. Hageman, Ph.D.
(one graduate; two undergraduates)

Ceil A. Herman, Ph.D.
(one graduate; one undergraduate)

Glenn D. Kuehn, Ph.D.
(one graduate; two undergraduates)

Peter J. Lammers
(one graduate; two undergraduates)

Jeff P. Velton, Ph.D.
(one graduate; two undergraduates)

Joseph Wang, Ph.D.
(one graduate; two undergraduates)

Research Projects

Avian cardiopulmonary and cerebrovascular function.

Spectroscopic rulers as probes of human serum albumin.

Molecular biology of osmoregulation: Choline oxidation in *Escherichia coli.*

Biochemical processes in mammalian sperm.

Synthesis and testing of potential collagenase inhibitors.

Proteinases and their regulation in sporulating *Bacillus subtilis* cells.

Biological actions of eicosanoids in amphibians.

Antibody and cDNA probes to study cellular transglutaminase.

Rearrangement of *Nif* genes during cyanobacterial heterocyst differentiation.

Variability in expression levels of newly introduced genes in transgenic plants.

Selective voltametric sensors for direct measurement of drugs in body fluids.

University of New Mexico

Program Co-Directors

Alonzo C. Atencio, Ph.D.
MBRS Co-Director
Assistant Dean of Student Affairs
Associate Professor of Physiology
Office of Student Affairs
School of Medicine, Rm. 106
University of New Mexico
Albuquerque, New Mexico 87131
(505) 277-2728

Margaret A. Garberina, Ph.D.
MBRS Co-Director
Associate Director of Student Affairs
Assistant Professor of Psychiatry
(505) 277-2728

Degree(s) Offered
Associate's
Bachelor's
Master's
Ph.D.
M.D.
Pharmacy

Project Investigators Number of Student Participants

William Anderson, Ph.D.
(two undergraduates)

David Bear, Ph.D.
(two undergraduates)

Carlos Bustamante, Ph.D.
(two graduates; two undergraduates)

William Dail, Ph.D.
(two undergraduates)

Larry Davis, Ph.D.
(two undergraduates)

Dennis Feeney, Ph.D.
(two graduates; two undergraduates)

Ellen Goldberg, Ph.D.
(one graduate; two undergraduates)

Jeffrey Griffith, Ph.D.
(one graduate; two undergraduates)

Linda McGuffee, Ph.D.
(two undergraduates)

Cary J. Morrow, Ph.D.
(one graduate; two undergraduates)

John Omdahl, Ph.D.
(two undergraduates)

Mark Ondrias, Ph.D.
(one graduate; two undergraduates)

Donald Priola, Ph.D.
(one graduate; two undergraduates)

Edward Reyes, Ph.D.
(two undergraduates)

Sherry Rogers, Ph.D.
(two undergraduates)

Linda Saland, Ph.D.
(two graduates; two undergraduates)

Daniel Savage, Ph.D.
(two undergraduates)

Terence Scallen, Ph.D.
(one graduate; two undergraduates)

David Vanderjagt, Ph.D.
(two undergraduates)

Kathryn Vogel, Ph.D.
(two undergraduates)

Research Projects

Chemical modifications of antibodies.

Rho-dependent transcription termination of *E. coli.*

Physical chemistry of nucleic acids and their aggregates.

Innervation of penile erectile tissue.

Influenza B virus model of Reye syndrome: Pathogenetic studies.

Beneficial or harmful effects of drugs on recovery after brain injury.

Immunogenetics of the skin antigenic system.

Increased antibiotic susceptibilities of drug resistant bacteria.

Localization of calcium in smooth muscle.

Synthesis of potential regulators of sterol biosynthesis.

Renal 25-(OH)-D_3-hydroxylases: Isolation, molecular aspects.

Time-resolved and low-temperature Raman studies of heme proteins.

Intrinsic innervation of the heart.

The effect of prenatal alcohol exposure on gamma-GTP.

Laminin and fibronectin in neural crest differentiation.

Ultrastructure and control of endorphin cells.

Effect of fetal ethanol on hippocampal neurotransmission.

Regulation of HMG-CoA reductase.

Biological properties of gossypol and derivatives.

Fibroblast proteoglycans and collagen in extracellular matrix.

(Continued on next page)

University of New Mexico—Continued

	James Wallace, Ph.D. (one graduate; two undergraduates)	Developmental regulation of neurotransmitter phenotype expression.
	Gerald Weiss, Ph.D. (two undergraduates)	How the locus ceruleus regulates the spread of seizures.
	Terry Yates, Ph.D. D. Duszynski, Ph.D. (two undergraduates)	Host genetic factors affecting specificity of the Coccidia of small mammals.

Bronx Community College

Program Director

Richard F. Heller, Ph.D.
Professor of Biology
Bronx Community College
University Avenue and West 181st Street
Bronx, New York 10453
(212) 220-6394, -6122

Degree(s) Offered
Associate's

Project Investigators Number of Student Participants

Research Projects

John W. Davis, Ph.D. (two undergraduates)	Enzyme systems of *Ureaplasma urealyticum*.
Martin Fein, Ph.D. (two undergraduates)	Peptide hormones of protist origin.
Richard F. Heller, Ph.D. (two undergraduates)	Small airway damage and repair in lung.
Rudean Leinaeng, M.S. Eugene Passer, Ph.D. (four undergraduates)	Protoporphyrin and lead levels of freshwater fish.

City College of the City University of New York

Program Director

Myer M. Fishman, Ph.D.
Professor of Chemistry
City College of the City University of New York
138th Street at Convent Avenue
New York, New York 10031
(212) 690-4142, -6601

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Research Projects

Daniel L. Akins, Ph.D. (one graduate)	Raman scattering by spectral sensitizer dyes on surfaces.
Theodore Axenrod, Ph.D. (one graduate; one undergraduate)	Spin-spin coupling between directly bonded ^{15}N-^{15}N and ^{15}N-^{13}C nuclei.
Valeria Balogh-Nair, Ph.D. (two undergraduates)	Synthetic compounds to probe molecular events in vision.
Ronald L. Birke, Ph.D. (two undergraduates)	Electrochemical and Raman studies of redox chromophores.
Robert H. Callender, Ph.D. (one graduate)	Resonance Raman studies of rhodopsin and related pigments.
Sharon D. Cosloy, Ph.D. (one graduate; two undergraduates)	The roles of the rec pathways of *E. coli* on recombination.
Myer M. Fishman, Ph.D. (one graduate)	The interaction of quinone antibiotics with polynucleotides.
Michael E. Green, Ph.D. (two undergraduates)	Transport in the ion exchange membrane-solution interface.
Joseph Grossfield, Ph.D. (two undergraduates)	Rates of evolution of mitochondrial DNA in temporarily separated populations.
John J. Lee, Ph.D. (one graduate; three undergraduates)	Endosymbiont adaptation in diatom-bearing larger Foraminifera and implications in their use as paleoecology tools.
John R. Lombardi, Ph.D. (one graduate; one undergraduate)	Stark hole-burning spectroscopy of model hemes.
Paul Margolin, Ph.D. (one graduate)	Cellular responses to DNA damage in bacteria.
Olivia C. McKenna, Ph.D. (one graduate; one undergraduate)	Functional anatomy of the accessory optic system/pretectum.
Charlotte S. Russell, Ph.D. (one graduate; two undergraduates)	Hemagglutinins in nereis coelomic fluid.
Horst H. Schulz, Ph.D. (one graduate; one undergraduate)	Fatty acid metabolism in the heart and its regulation.
Donald L. Sloan, Ph.D. (one graduate; one undergraduate)	Enzymic phosphoribosyl transfer reactions in yeast.
Sanya Springfield, Ph.D. (one undergraduate)	Modulatory actions of histamine and serotonin in the rat hippocampal slice.
Mark L. Steinberg, Ph.D. (one undergraduate)	Carcinogen-mediated gene amplification.
Joshua Wallman, Ph.D. (two undergraduates)	Role of vision in etiology of axial myopia.
Arthur E. Woodward, Ph.D. (one graduate; one undergraduate)	Carbon-13 nuclear magnetic resonance studies of trans-1,4-polyisoprene.

Hunter College

Program Director

Erwin Fleissner, Ph.D.
Dean of Science and Mathematics
Hunter College of CUNY
695 Park Avenue
New York, New York 10021
(212) 772-5240

Degree(s) Offered
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Richard L. Chappell, Ph.D.
(one undergraduate)

William D. Cohen, Ph.D.
(one graduate)

Max Diem, Ph.D.
(one undergraduate)

Richard W. Franck, Ph.D.
(one graduate; one undergraduate)

Dixie Goss, Ph.D.
(one graduate; one undergraduate)

Cheryl F. Harding, Ph.D.
(two undergraduates)

David K. Lavallee, Ph.D.
(one graduate; two undergraduates)

Peter N. Lipke, Ph.D.
(one graduate)

Harvey L. Ozer, M.D.
(one graduate; two undergraduates)

Rivka Rudner, Ph.D.
(one graduate; one undergraduate)

William V. Sweeney, Ph.D.
(one graduate)

Maria Tomasz, Ph.D.
(two undergraduates)

James H. Wyche, Ph.D.
(two graduates; one undergraduate)

H. Phillip Zeigler, Ph.D.
(two undergraduates)

Research Projects

Neural interactions of the retina.

Studies on the marginal band system of erythrocytes.

Solution conformation of peptides via a novel spectroscopic technique.

Synthesis of the aureolic acid antibiotics.

Biophysical studies of the regulation of mRNA translation.

Hormonal specificity in control of male behavior.

Rate- and site-selective alkylating reagents.

Role of carbohydrates in cellular adhesion in yeast.

Regulation of growth of mammalian cells in culture.

Redundancy and function of ribosomal genes in *Bacillus subtilis*.

Studies of iron-sulfur proteins.

Formation and structure of adducts of mitomycin C with nucleic acids.

Regulation of pituitary functions.

Neural control of avian grasping behavior.

Lehman College

Program Director

Nathan B. Shaw, Ph.D.
Lehman College
City University of New York
Bedford Park Boulevard West
Bronx, New York 10468
(212) 960-8222

Co-coordinators:

Dwight Kincaid, Ph.D.
Associate Professor of
Biological Sciences
(212) 960-8651

Karyl Swartz, Ph.D.
Associate Professor of
Psychology
(212) 960-8478

Degree(s) Offered
Bachelor's
Master's
Ph.D. in Biological (Plant) Sciences

Project Investigators Number of Student Participants

Dominick Basile, Ph.D.
(one undergraduate)

Iraj Ganjian, Ph.D.
(one undergraduate)

John Gillespie, Ph.D.
(one undergraduate)

William Jakinovich, Ph.D.
(one undergraduate)

Thomas Jensen, Ph.D.
(two graduates)

Dwight Kincaid, Ph.D.
(one undergraduate)

Brenda Moffitt, Ph.D.
(one undergraduate)

Manfred Philipp, Ph.D.
(one graduate)

Karyl Swartz, Ph.D.
(two undergraduates)

James Taylor, Ph.D.
Robert DiBennardo, Ph.D.
(one undergraduate)

Eleanore Wurtzel, Ph.D.
(one undergraduate)

Suzanne Yates, Ph.D.
(one undergraduate)

Research Projects

Chemoregulation of localized cellular suppression.

Compounds with potential antineoplastic activity: Synthesis of pyrrolizino(1,2-d) pyridazines, with a novel tricyclic skeleton.

Dosimetry for tumor imaging and treatment using labeled monoclonal antibodies.

Specificity of mammalian sweet taste response.

Cellular target sites of heavy metal exposed cells.

Morphometrics of two-dimensional projection: The automation of a boundary method.

Effects of temperature and cadmium ions on *Ictalurus nebulosus* and *Lepomis macrochirus*.

Antibodies induced by transition state analog haptens.

Comparative studies of social perception in primates.

Multigroup discriminant function analysis for race and sex assessment.

Cloning and expression of carotenoid biosynthetic genes.

Stigma and attributions about seeking help for emotional distress.

Medgar Evers College

Acting Program Director

Richard H. Johnson, Ph.D.
Professor of Chemistry
Division of Natural Sciences and Mathematics
Medgar Evers College
City University of New York
1150 Carroll Street
Brooklyn, New York 11225
(718) 735-1897, x1902

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Patricia Ferdinand, Ph.D.
(two undergraduates)

Robert H. Johnson, Ph.D.
(two undergraduates)

Arthur S. Lewis, Ph.D.
(two undergraduates)

Research Projects

Exposure of mouse erythroid cells to 5-azacytidine.

Determination of coupling and racemization rate constants during peptide synthesis.

Purification and characterization of compounds of mitochondrial electron transport.

State University of New York/College at Old Westbury

Program Director

Robert M. Hoyte, Ph.D.
Professor of Chemistry
Program in Chemistry and Physics
State University of New York/ College at Old Westbury
P.O. Box 210
Old Westbury, New York 11568
(516) 876-3041, -3046, -2754

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Rita Colon-Urban, Ph.D.
(two undergraduates)

Robert M. Hoyte, Ph.D.
(two undergraduates)

Michael Leung, Ph.D.
(two undergraduates)

Marie Metlay, Ph.D.
(two undergraduates)

Stephen Pryor, Ph.D.
(two undergraduates)

George Stefano, Ph.D.
(two undergraduates)

Samuel von Winbush, Ph.D.
(two undergraduates)

Konrad Wu, Ph.D.
(two undergraduates)

Research Projects

Determination of biologically active substances from bryozoans.

Synthesis and purification of steroid analogs of biomedical importance.

Structures and functions of opioid peptides in invertebrates.

Neuroimmunomodulation in chemically induced thymomas.

Biochemical mechanisms of pesticide resistance and environmental selection in mosquitoes.

Stress-induced modifications of the dopamine-opioid interrelationship.

Polymeric mixed-oxidation-state metallic complexes as an electron-transfer pathway.

Spectroscopy of polymers related to visual chromophores.

York College of the City University of New York

Program Director

Leslie A. Lewis, Ph.D.
Professor of Biology
Department of Natural Sciences
York College of the City University of New York
Jamaica, New York 11451
(718) 262-2765
Lab: (718) 262-2213

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Deirdre A. Cohn, Ph.D.
(three undergraduates)

Lawrence Johnson, Ph.D.
(three undergraduates)

Leslie A. Lewis, Ph.D.
(three undergraduates)

Paul Young, Ph.D.
(three undergraduates)

Research Projects

Androgen sensitivity as a factor in immunocompetence.

Electric-field effects on oriented metalloporphyrins.

Gentamicin-induced microbial cell transformation.

NMR studies of selected peptides.

Fayetteville State University

Program Director

Matthew E. Edwards, Ph.D.
Associate Professor of Physics
Chairman
Department of Physical and Earth Sciences
College of Arts and Sciences
Fayetteville State University
Fayetteville, North Carolina 28301-4297
(919) 486-1657

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

John W. Chambers Jr., Ph.D.
(two undergraduates)

Matthew E. Edwards, Ph.D.
(two undergraduates)

Robert H. Higgins, Ph.D.
(two undergraduates)

Floyd R. Waddle, Ph.D.
(two undergraduates)

James O. Williams, Ph.D.
(two undergraduates)

Research Projects

Psychological interventions in the control of hypertension.

Remote infrared heterodyne sensing of atmospheric pollutants.

The mechanism of ring opening of azetidines and azetidine-3-ols.

Genetics of segregation distortion.

Semiconductivity and lone pair adjacent-orbital interaction in proteins.

Johnson C. Smith University

Program Director

B. K. Chopra, Ph.D.
Professor of Biology
Johnson C. Smith University
100 Beatties Ford Road
Charlotte, North Carolina
28216
(704) 378-1050

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

B. K. Chopra, Ph.D.
Hampton Wright, Ph.D.
(three undergraduates)

Ruth Green, Ph.D.
(two undergraduates)

Henry F. Russell, Ph.D.
(two undergraduates)

Research Projects

Susceptibility analysis of bacteria to cefoxitin, cefamandole, and cephalothin.

Differential coping strategies: Focus on behavioral patterns of black elderly.

Synthesis of melatonin analogs: Potential cell mitosis inhibitors.

North Carolina A & T State University

Program Director

Alex N. Williamson, Ph.D.
Associate Professor of Chemistry
North Carolina A & T State University
Greensboro, North Carolina
27411
(919) 334-7565

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

John Allen, Ph.D.
(two undergraduates)

Doretha Foushee, Ph.D.
(one graduate; one undergraduate)

T. E. Joan Robinson, Ph.D.
(two graduates; one undergraduate)

Susan Schumacher, Ph.D.
(two graduates; two undergraduates)

Alex N. Williamson, Ph.D.
(two graduates; two undergraduates)

Research Projects

Rapid diagnosis of *Gardnerella vaginalis*.

Antigenic comparison of two strains of infectious pancreatic necrosis (IPN) virus.

Hormonal responses to changes in luteal cell membrane fluidity.

Development of a more appropriate animal model of tardive dyskinesia.

Synthesis and characterization of models for hemocyanin.

North Carolina Central University

Program Director

Walter H. Pattillo Jr., Ph.D.
Chairman, Biology Department
North Carolina Central University
Durham, North Carolina 27707
(919) 683-6407, -6571

Degree(s) Offered
Bachelor's
Master's
J.D.
LL.D.

Project Investigators Number of Student Participants

Elaine Davis, Ph.D.
(one graduate; two undergraduates)

James Everett, Ph.D.
(one graduate; two undergraduates)

John A. Myers, Ph.D.
Robert A. Izydore, Ph.D.
(three graduates; three undergraduates)

John Ruffin, Ph.D.
(one graduate; two undergraduates)

Ezra L. Totton, Ph.D.
(two graduates; one undergraduate)

Research Projects

Conjugal transfer replication in *E. coli* K-12.

Biomedical and biophysical studies of Menke's syndrome.

Synthesis of pharmacologically active compounds from *cis*-diacyl-diimides and oxazolium-5-oxides.

Airborne carcinogens and their affinity for airborne pollen and fungal spores.

Synthesis of compounds with potential biomedical importance.

Winston-Salem State University

Program Director

Wilveria B. Atkinson, Ph.D.
Director, Project Strengthen
Winston-Salem State University
Winston-Salem, North Carolina 27110
(919) 750-2600

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Nelson Adams, Ph.D.
(two undergraduates)

Wilveria B. Atkinson, Ph.D.
(four undergraduates)

Richard Bennett Jr., Ph.D.
(two undergraduates)

Morton A. Heller, Ph.D.
(two undergraduates)

Kim H. Tan, Ph.D.
(two undergraduates)

Research Projects

Effects of social stress on hypertension.

Tumoricidal capacity of artificially activated macrophages.

Hog gastric mucus analysis.

The role of visual guidance and imagery in haptics and mobility.

Organization and transcription of *Aspergillus niger* genes.

Central State University

Program Director

Melvin A. Johnson Jr., Ph.D.
Dean
College of Arts and Sciences
Central State University
Wilberforce, Ohio 45384
(513) 376-6324, -6453

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Raman C. Murthy, Ph.D.
(two undergraduates)

Willie J. Washington, Ph.D.
(three undergraduates)

Research Projects

Pulmonary response to metal combinations.

Mutagenic potential of some industrial solvents.

Southeastern Oklahoma State University

Program Director

Jack L. Robinson, Ph.D.
Professor of Chemistry
Physical Sciences Department
Southeastern Oklahoma State University
Station A, Box 4133
Durant, Oklahoma 74701
(405) 924-0121 x531

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Gordon L. Eggleton, Ph.D.
(three undergraduates)

Jack L. Robinson, Ph.D.
(two undergraduates)

John R. Wright, Ph.D.
(four undergraduates)

Research Projects

Coordination of five-membered heterocyclic rings to transition metals.

Development of liquid chromatographic methods for the separation and analysis of compounds of current interest in environmental and biomedical sciences: Trace enrichment of polycyclic aromatic hydrocarbons from edible oils and white mineral oil.

Copper clusters as biomedical probes: Penicillamine/copper interactions and investigation of deeply pigmented heavy metal antibodies. Inorganic antibody labels for biomedical applications.

Lincoln University, Pennsylvania

Program Director

Charles C. Duncan, Ph.D.
Associate Professor of Psychology
Lincoln University
Lincoln University, Pennsylvania 19352-0999
(215) 932-8300 x534

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Ramachandra Bhat, Ph.D.
(two undergraduates)

Charles C. Duncan, Ph.D.
(two undergraduates)

David Royer, Ph.D.
(one undergraduate)

Research Projects

Protein-nucleic acid interactions and biological recognition.

Localization of brain sites that mediate tetrahydroisoquinoline-induced ethanol preference and other behaviors in the rat.

Clostridium perfringens as an indicator of sewage pollution.

Catholic University of Puerto Rico

Program Director

Jose R. Escabi, Ph.D.
Professor of Chemistry
Catholic University of Puerto Rico
Postal Station 6
Ponce, Puerto Rico 00732
(809) 844-4150

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Marya E. Cadiz, Ph.D.
(one undergraduate)

Jose R. Escabi, Ph.D.
(two graduates; one undergraduate)

Gabriel A. Infante, Ph.D.
(two graduates; two undergraduates)

Research Projects

Interaction between cis-platinum complexes and bleomycin.

Reversed micelles as red blood cell membrane models.

Radiation chemical studies on biologically important compounds.

Humacao University College

Program Director

Margarita Ortiz, Ph.D.
MBRS Program
Humacao University College
CUH Station
Humacao, Puerto Rico 00661
(809) 852-2525 X359 or 249

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Antonio E. Alegria, Ph.D.
(four undergraduates)

Roberto Marero, Ph.D.
(four undergraduates)

Ileane Nieves, Ph.D.
(four undergraduates)

Margarita Ortiz, Ph.D.
(two undergraduates)

Research Projects

Quantification of the thermodynamic stability of semiquinones as a function of their environment.

New methodology for stereochemical controlled synthesis of biologically active amines.

Vanadium interaction studies in relation to the inhibition of Na^+K^+ATPase.

Synthetic applications of model mono- and dioxygenase systems to olefin oxidation.

Inter-American University of Puerto Rico

Program Director

Anne D. Frame, M.S., Ed.D.
Professor of Biology
Inter-American University of Puerto Rico
Metropolitan Campus
P.O. Box 1293
Hato Rey, Puerto Rico 00919
(809) 758-8000 ext. 171

Degree(s) Offered
Associate's
Bachelor's
Master's
Ph.D.
Medical Technology
Nursing
Aviation Science
Computer Sciences
Optometry
Law
B.S. in Chemistry accredited by American Chemical Association.

Project Investigators Number of Student Participants

Arnaldo Alzerreca, Ph.D.
(two undergraduates)

Pedro Bendezu, D.V.M.
(two undergraduates)

Anne D. Frame, M.S., Ed.D.

Jose Martinez, M.S.
(two undergraduates)

Freddy Medina, Ph.D.
(two undergraduates)

Associated Investigators at the Universidad Central del Caribe School of Medicine:

Vesna Eterovic, Ph.D.
(one undergraduate)

Pedro Ferchmin, Ph.D.
(one undergraduate)

Research Projects

Synthesis of heterocyclic compounds and study of their effects on biological cells.

Strategies for *Fasciola hepatica* control in Puerto Rico.

Mutagenic properties of environmental contaminants.

The role of polyamines in brain plasticity.

Ponce School of Medicine

Program Director

E. H. Eylar, Ph.D.
Professor of Biochemistry
Ponce School of Medicine
P.O. Box 7004
Ponce, Puerto Rico 00732
(809) 844-3620

Degree(s) Offered
M.D.

Project Investigators Number of Student Participants

E. H. Eylar, Ph.D.
(one undergraduate)

Y. Yamamura, Ph.D.
(one undergraduate)

Research Projects

Aging of T lymphocytes: Phosphorylating mechanisms and DNA.

Immunosenescence of T cells: A macrophage dysfunction.

University of Puerto Rico, Mayaguez

Program Director

Manuel Hernandez-Avila, Ph.D.
Director, Marine Sciences Department
University of Puerto Rico
Mayaguez Campus
Mayaguez, Puerto Rico 00708
(809) 832-4040, Ext. 3155, 3443, 3447
(809) 832-3165

Degree(s) Offered
Associate's
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Cynthia R. Luiggi, Ph.D.
(two graduates; one undergraduate)

George W. Miskimen, Ph.D.
Sixto Garcia-Castineriras, M.D., Ph.D.
(three graduates; two undergraduates)

Eric C. Phoebus, Ph.D.
(three undergraduates)

Carlos A. Ramirez, Ph.D.
(three graduates)

Douglas Shapiro, Ph.D.
(three graduates)

Research Projects

Interactions of oligopeptides with nucleic acids.

Mechanisms for photoreceptor cell organelle movement.

Reproductive electrophysiology of the rhesus monkey.

Hybrid artificial pancreas for glucose regulation.

Physiology and behavior of adult sex change in fish.

University of Puerto Rico Medical Sciences Campus

Program Director

Fernando F. Vargas, D.D.S., Ph.D.
Chairman, Physiology Department
Medical Sciences Campus
University of Puerto Rico
GPO Box 5067
San Juan, Puerto Rico 00936
(809) 751-2525
Campus: (809) 758-2525, x1601, 1606

Degree(s) Offered
Bachelor's
Master's
Ph.D.
D.D.S.
M.D.
Pharmacy
Nursing
Medical Technology
Nutrition
Public Health

Project Investigators Number of Student Participants

Jaime Bernstein, Ph.D.
(two graduates)

Benjamin Bolanos, Ph.D.
(one graduate; one undergraduate)

Pedro I. Chavez, Ph.D.
(one graduate; two undergraduates)

Luis A. Clavell, M.D., Ph.D.
(one graduate)

Manfred Eberhardt, Ph.D.
(two undergraduates)

Nelson Escobales, Ph.D.
(one graduate)

Jose M. Garcia Castro, M.D., Ph.D.
(one graduate; three undergraduates)

Arturo Marti, Ph.D.
(three undergraduates)

Jose G. Ortiz, Ph.D.
(two graduates; one undergraduate)

Alan M. Preston, Ph.D.
(two graduates; two undergraduates)

Fernando F. Vargas, D.D.S., Ph.D.
(two graduates; one undergraduate)

Research Projects

The pulmonary ethanol metabolizing system.

Role of cell-mediated immunity in pulmonary cryptococcosis in the rat.

Isolation of Puerto Rican plant cytotoxins.

Clonogenic progenitors in acute lymphoblastic leukemia.

Aromatic hydroxylation and radical cations.

Kinetic and biochemical characterization of the Na^+,H^+ exchange system of the red blood cell.

Differential mitosis of fetal cells in maternal blood during pregnancy.

Proteins associated with small nuclear RNA's.

Hyperpipecolatemia: Transport and metabolic studies.

Nutritional management of diabetes using enriched diets.

Transendothelial transport and its regulation in large and small blood vessels.

University of Puerto Rico, Rio Piedras

Program Director

Osvaldo Rosario Lopez, Ph.D.
Director, MBRS Program
College of Natural Sciences
Facundo Bueso Building
University of Puerto Rico
Rio Piedras Campus
Rio Piedras, Puerto Rico 00931
(809) 764-0000, x3546 or 3528

Degree(s) Offered
Associate's
Bachelor's
Master's
Ph.D.

Project Investigators Number of Student Participants

Rafael Arce, Ph.D.
(three graduates; one undergraduate)

Adriana Baez, Ph.D.
(one graduate; three undergraduates)

Charles Barnes, Ph.D.
(one graduate; two undergraduates)

Julio Benabe, M.D.
(one undergraduate)

Graciela Candelas, Ph.D.
(two graduates; two undergraduates)

Nestor Carballeira, Ph.D.
(two graduates; one undergraduate)

Susan Corey, Ph.D.
(two undergraduates)

Walmor DeMello, Ph.D.
(one graduate; two undergraduates)

Gladys Escalona, Ph.D.
(three graduates; one undergraduate)

Emma Fernandez, Ph.D.
(one graduate)

Sharon K. File, Ph.D.
(two graduates; one undergraduate)

Ivette Garcia-Castro, Ph.D.
(two graduates)

Terry C. Hazen, Ph.D.
(three graduates; one undergraduate)

George V. Hillyer, Ph.D.
(one graduate; two undergraduates)

Edmundo Kraiselburd, Ph.D.
(one graduate; one undergraduate)

Julio Lavergne, Ph.D.
(one undergraduate)

Manuel Martinez, M.D.
(one graduate; three undergraduates)

Magda H. Morales, Ph.D.
(two graduates; two undergraduates)

Mariel Muir, Ph.D.
(two graduates; three undergraduates)

Research Projects

Photochemistry of purine bases of nucleic acids.

Inhibitory activity of the alkaloids of the genus Xanthoxylum.

Structural studies of peptide mycotoxins.

Effect of fatty acid deficiency and supplementation in renal function.

Regulation of protein synthesis; modulation by tRNA.

Isolation and structure determination of biologically active natural products.

TTX effect on Na^+,K^+-ATPase synthesis and axonal transport.

Cell to cell communication in heart muscle.

New pharmacological tools for muscle membrane studies.

Effect of diet on renal function in the rabbit.

Transit of schistosome eggs through venular endothelium.

Common mediators of the systemic effects of tumors and bacterial endotoxin.

Survival and activity of pathogenic bacteria in tropical waters.

Immune responses in schistosomiasis and fascioliasis.

Promotion of cell mutations by herpes simplex virus.

Effect of ultrasound on the survival and function of immune and nonimmune cells.

Role of renal Na^+,K^+-ATPase in hypertension.

Regulation of liver specific synthesis and secretion.

Potential antitumor transition metal complexes.

(Continued on next page)

University of Puerto Rico, Rio Piedras—Continued

Jose R. Ortiz, Ph.D. (two graduates; two undergraduates)	Cell transdifferentiation during lens regeneration.
Jose A. Prieto, Ph.D. (three graduates; one undergraduate)	Organosilane routes to biologically important molecules.
Carlos Ramirez, Ph.D. (two undergraduates)	Bacterial adherence and pathogenesis of some infectious processes.
Fernando Renaud, Ph.D. (one graduate; one undergraduate)	Unicellular models of hormone action.
Nuri Rodriguez, Ph.D. (one graduate; one undergraduate)	Studies on cyclic nucleotides and calcium ions.
Angel Roman-Franco, M.D. (two undergraduates)	Mechanisms of action of carcinogenic fibers.
Osvaldo Rosario, Ph.D. (four graduates; one undergraduate)	Characterization of organic air pollutants over Puerto Rico.
Eduardo Santiago, M.D. (one graduate; two undergraduates)	Effect of high cholesterol diet on immune function.
Alberto H. Sillau, Ph.D. (two graduates; one undergraduate)	Muscle capillarity and fiber types in thyrotoxicosis.
Charles Simmons, Ph.D. (one graduate; one undergraduate)	X-ray study of synthetic oxygen carriers related to biological systems.
John Soderquist, Ph.D. (three graduates; two undergraduates)	Total synthesis of pheromones and antiinflammatory agents using vinylmetalloids.
Susan Stitzer, Ph.D. (one graduate; three undergraduates)	Control of renin and aldosterone release in DI rats.
Luis Torres-Bauza, Ph.D. (two graduates; one undergraduate)	Cellular events, nuclear structure, and transcription during *Candida albicans* morphogenesis.

Benedict College

Program Director

Mary F. Finlay, Ph.D.
Professor of Biology
Division of Mathematics and Natural Sciences
Benedict College
Harden and Blanding Streets
Columbia, South Carolina 29204
(803) 253-5279, -5278

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Kenneth Alston, Ph.D.
(four undergraduates)

Mary F. Finlay, Ph.D.
(three undergraduates)

James Kinard, Ph.D.
(three undergraduates)

Juanita Scott, Ed.D.
(two undergraduates)

Joyce A. Tolbert, Dr.P.H.
(four undergraduates)

Research Projects

Nickel (II) hemoglobin hybrids as models of cooperativity in hemoglobin.

Genetic and biochemical analysis of leucine aminopeptidase and alkaline phosphatase in rodents.

Trace elements in relation to chronic disease.

Membrane structure and function: Lipid addition to the thylakoid.

Primary prevention of cancer (smoking) in black populations.

South Carolina State College

Program Director

Nirmalendu Datta-Gupta, Ph.D.
Professor of Chemistry
South Carolina State College
Box 1731
Orangeburg, South Carolina 29117
(803) 536-8871

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Nirmalendu Datta-Gupta, Ph.D.
(six undergraduates)

Leroy Davis, Ph.D.
(two undergraduates)

Roy Isabel, Ph.D.
(two undergraduates)

Research Projects

Oxygen-carrying protein-porphyrin complexes.

Axial ligand binding studies of ferrous porphyrins: Activation of coordinated gaseous ligands.

Studies of RNA and protein synthesis in *hisW* mutants of *Salmonella typhimurium*.

Fisk University

Program Director

I. Wesley Elliott, Ph.D.
Professor of Chemistry
Fisk University
Nashville, Tennessee 37208
(615) 329-8628

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

I. Wesley Elliott, Ph.D.
(two graduates; two undergraduates)

M. Gunasekaran, Ph.D.
(three graduates; one undergraduate)

Research Projects

Synthesis of new arylalkylamines as potential dopaminergic agents.

Gas chromatography for detection of fungal infections.

Meharry Medical College, School of Graduate Studies

Program Director

Fred Jones, Ph.D.
Dean
School of Graduate Studies
Meharry Medical College
1005 D. B. Todd Boulevard
Nashville, Tennessee 37208
(615) 327-6212

Degree(s) Offered
M.S.P.H.
Ph.D.
D.D.S.
M.D.

Project Investigators Number of Student Participants

Diane Blake, Ph.D.
(one graduate)

Mohit A. Bhattacharyya, Ph.D.
(one graduate)

George Hill, Ph.D.
(two graduates)

Robert Holt, Ph.D.
(two graduates)

Mohammed Muleque, Ph.D.
(one graduate)

Garl Rieke, Ph.D.
(one graduate)

Hubert Rucker, Ph.D.
(one graduate)

James Russell, Ph.D.
(one graduate)

Shirley Russell, Ph.D.
(one graduate)

Linda Sander, Ph.D.
(one graduate)

Research Projects

Role of glycoconjugates in cell-substratum interactions.

Electrophysiology of hypoxic ventricular myocardial tissues.

Electron transport systems in African trypanosomes.

Colonization mutants of *Streptococcus mutans*.

Effects of weberine, its congeners, mescaline and phencyclidine on ACh receptors.

Huntington's disease and the toxic metabolite pyroglutamate: Relationship?

Acetylcholine and acoustic stimulus processing in cortex.

Keloids: An in vitro model of tumor growth regulation.

The system A amino acid transporter in human fibroblasts.

Feeding and GI peptide influences on the pituitary-adrenal axis.

(Continued on next page)

Meharry Medical College, School of Graduate Studies—Continued

	William E. Thomas, Ph.D. (one graduate)	Studies of acetylcholine and vasoactive intestinal polypeptide in the cerebral cortex.
	James Townsel, Ph.D. (one graduate)	Choline uptake and acetylcholine biosynthesis.
	Joel S. Trupin, Ph.D. (one graduate)	Growth and amino acid transport interrelationships in human fibroblasts.
	Manuel Valenzuela, Ph.D. (one graduate)	DNA replication in eukaryotes: Analysis of autonomously replicating sequences.

Meharry Medical College, School of Medicine

Clinical Program Director

Mary Ann South, M.D.
Professor of Pediatrics
Meharry Medical College
1005 D. B. Todd Boulevard
Nashville, Tennessee 37208
(615) 327-6482

Degree(s) Offered
Master's
Ph.D.
D.D.S.
M.D.

Project Investigators

Festus Adebonojo, M.D.

Osman Ahmed, M.D.

Linda Clayton, M.D.

Lloyd Elam, M.D.

Saburu Hara, M.D.

Robert E. Hardy, M.D.

Sadish Makrandi, D.D.S.

Evan Moore, M.D.

Lawrence J. Prograis, M.D.

Mary Ann South, M.D.

Harvard Stephens, M.D.

Paul Talley, M.D.

Ernest Turner, M.D.

Research Projects

Pulmonary function standards in black Americans.

Estrogen receptors: Response to chemotherapy in black patients with breast cancer.

Further investigation of plasma sialic acid and sialyltransferase alterations in neoplastic disease.

Studies of the metabolic turnover of iodinated C_1 inhibitor.

Coronary artery disease risk factors in black medical students and residents.

Clinical research projects in sickle cell disease, behavioral science, nutrition, infectious disease (virology), oncology (tumor markers), cardiovascular disease, immunology, dentistry, pulmonary disease, and diabetes.

Tennessee State University

Program Director

James A. Adams, Ph.D.
Professor of Biological Sciences
Tennessee State University
3500 John A. Merritt Boulevard
Nashville, Tennessee 37203
(615) 320-3462

Degree(s) Offered
Associate's
Bachelor's
Master's
Ed.D.

Project Investigators Number of Student Participants

James A. Adams, Ph.D.
(two graduates; two undergraduates)

Helen R. Barrett, Ph.D.
(three undergraduates)

Fu-Ming Chen, Ph.D.
(two undergraduates)

Ying-Ming Lin, Ph.D.
(one undergraduate)

Robert F. Newkirk, Ph.D.
(two graduates; one undergraduate)

Gus Tomlinson, Ph.D.
(one graduate; one undergraduate)

Research Projects

Effects of PCB's on growth and morphogenesis in selected invertebrates.

Biofeedback control as a function of subject and task variables.

Kinetic and thermodynamic studies of drug binding to DNA.

Regulation of cyclic 3',5'-nucleotide phosphodiesterase.

Study of neurotransmitters in the cardiac ganglion of limulus.

Ultrastructural study of excystation in *Acanthamoeba castellani.*

Bishop College

Program Director

Edison R. Fowlks, Ph.D.
Chairman, Division of Science and Technology
Bishop College
3837 Simpson-Stuart Road
Dallas, Texas 75241
(214) 372-8727

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Edison R. Fowlks, Ph.D.
Yuan Fon Lee, Ph.D.
(four undergraduates)

Research Projects

Molecular structure, function, and relationship of multiple-component viral ribonucleic acid.

Incarnate Word College

Program Director

Gerald F. Doebbler, Ph.D.
Associate Professor of Chemistry
Incarnate Word College
4301 Broadway
San Antonio, Texas 78209
(512) 828-1261 x241 or 206

Participating Institutions:

Our Lady of the Lake University (OLLU)
411 Southwest 24th Street
San Antonio, Texas 78285
(512) 434-6711

St. Mary's University (STMU)
One Camino Santa Maria
San Antonio, Texas 78284
(512) 436-3011

Incarnate Word College (IWC)
4301 Broadway
San Antonio, Texas 78209
(512) 828-1261

University of Texas Health Science Center at San Antonio (UTHSC)
7703 Floyd Curl Drive
San Antonio, Texas 78284
(512) 691-6011

Southwest Foundation for Biomedical Research (SFBR)
7620 N.W. Loop 410 at Military Drive
P.O. Box 28147
San Antonio, Texas 78284
(512) 674-1410

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Barbara D. Boyan, Ph.D. (UTHSC)
(one graduate; one undergraduate)

Jose M. Cimadevilla, Ph.D. (STMU)
(two undergraduates)

Gerald F. Doebbler, Ph.D. (IWC)
(two undergraduates)
Mary D. Healy, Ph.D. (IWC)
(two undergraduates)
John A. Ward, Ph.D. (IWC)
(one graduate; two undergraduates)

Catalina Fresquez, Ph.D. (IWC)
(one graduate; two undergraduates)

Martin L. Meltz, Ph.D. (UTHSC)
(one graduate; one undergraduate)

Philip L. Mobley, Ph.D. (UTHSC)
(two undergraduates)

Barry Norling, Ph.D. (UTHSC)
(one undergraduate)

P. N. Rao, Ph.D. (SFBR)
(one graduate; one undergraduate)

David Ross, Ph.D. (UTHSC)
(one graduate; one undergraduate)

Robert E. Shade, Ph.D. (STMU)
(two undergraduates)

Ciro Sumaya, M.D. (UTHSC)
(one graduate; one undergraduate)

Robert G. Waggener, Ph.D. (UTHSC)
(one graduate; one undergraduate)

Eleanor A. Young, Ph.D. (UTHSC)
(one undergraduate)

Research Projects

Structure and function in membrane-initiated calcification.

Proinsulin synthesis in cell-free lysates of isolated bovine pancreatic B-cells.

Magnesium metabolism in the cardiovascular system.

DNA, RNA, and protein synthesis in polytene chromosomes.

Ewing's sarcoma multicellular spheroids and combined modality therapy.

Effect of soman on protein phosphorylation systems in the brain.

Expansion of dental amalgam in a corrosive environment.

Synthesis of new steroid haptens for radioimmunoassay.

Regulation of adenosine triphosphate activity by developed divalent cations.

Research in cardiovascular pharmacology.

Detection of antibodies to Epstein-Barr virus antigens by ELISA.

Ultrasonic computerized tomographic characterization of tissues.

Gastrointestinal adaptation to gastric stapling and semi-starvation for obesity.

Pan American University

Program Director

James W. Aldridge, Ph.D.
Associate Professor of Psychology
College of Arts and Sciences
Pan American University
Edinburg, Texas 78539
(512) 381-3324, -3318, -3546

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

James W. Aldridge, Ph.D.
(one graduate; two undergraduates)

Bill Arnold, Ph.D.
(two undergraduates)

Mohammed Y. H. Farooqui, Ph.D.
(one graduate; two undergraduates)

Rumaldo Z. Juarez, Ph.D.
Manuel M. Lopez, Ph.D.
(three undergraduates)

Gary Montgomery, Ph.D.
(three undergraduates)

Research Projects

Attentional resource utilization in speech production.

Family factors and work adjustment of handicapped Mexican Americans disabled by brain trauma or stroke.

Toxicology and pharmacology of methacrylonitrile.

Health status, health need, and health services utilization of Hispanic elderly.

Psychophysiological characteristics of headache and bruxism subjects.

Prairie View A & M University

Program Director

Arthur C. Washington, Ph.D.
Professor of Biology
Prairie View A & M University
Box 2784
Prairie View, Texas 77446
(409) 857-2315

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

V. M. Doctor, Ph.D.
(two graduates; two undergraduates)

Richard Thomas, Ph.D.
Feab Smith, Ph.D.
(two undergraduates)

Henry Valor, Ph.D.
(two graduates; two undergraduates)

Research Projects

Mechanism of action of sulfuric xylenes on coagulation of human plasma.

Distribution of cadmium and lead in plants fed *Vigna sinensis* grown in sludge treated soil.

Synthesis, chemical and biological studies of potential tumor inhibitors, triazenes.

Texas A & I University

Program Director

John C. Perez, Ph.D.
Professor of Biology
Texas A & I University
Kingsville, Texas 78363
(512) 595-3803, -3796

Degree(s) Offered
Bachelor's
Master's
Ph.D. in Bilingual Education

Project Investigators Number of Student Participants

Robert Hayes, Ph.D.
(two graduates; two undergraduates)

John C. Perez, Ph.D.
Shyi-Y. Huang, Ph.D.
(two graduates; three undergraduates)

Research Projects

Protein structure and structure/function interdependence.

Venom neutralization by a purified antihemorrhagic factor isolated from the opossum serum (*Didelphis virginiana*).

Texas Southern University

Program Director

Warren E. Williams, Ph.D.
Associate Professor and Chairman
Department of Biology
Texas Southern University
3100 Cleburne Street
Houston, Texas 77004
(713) 527-7005

Degree(s) Offered
Bachelor's
Master's
Ph.D.
Pharmacy

Project Investigators Number of Student Participants

Kiah Edwards, Ph.D.
(two undergraduates)

Pearlie M. Fennell, Ph.D.
(two graduates; two undergraduates)

James Guildford, Ph.D.
Edward J. Eugere, Ph.D.
(three undergraduates)

Curtis McDonald, Ph.D.
(two graduates; one undergraduate)

Warren E. Williams, Ph.D.
(one graduate; one undergraduate)

Research Projects

Studies on avian DNA.

Drug metabolism in mice thymic lymphosarcoma.

Effect of lead on insecticide metabolism.

Bioselective electrode studies.

Influence of cytosine starvation.

University of Texas at El Paso

Program Director

Eppie D. Rael, Ph.D.
Associate Professor of Biological Sciences
University of Texas at El Paso
El Paso, Texas 79968
(915) 747-5844 x376

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Pablo Arenaz, Ph.D.
(one graduate; two undergraduates)

John R. Bristol, Ph.D.
Lillian F. Mayberry, Ph.D.
(one graduate; two undergraduates)

C. Allen Chang, Ph.D.
(one graduate; two undergraduates)

Michael I. Davis, Ph.D.
(one graduate; two undergraduates)

Judith P. Goggin, Ph.D.
(one graduate; two undergraduates)

Paul Goldstein, Ph.D.
(one graduate; one undergraduate)

Donald W. Moss, Ph.D.
(two graduates; two undergraduates)

Keith H. Pannell, Ph.D.
(two graduates; two undergraduates)

Eppie D. Rael, Ph.D.
(two graduates; one undergraduate)

Research Projects

Cell cycle regulation of human apurinic/apyrimidinic endonucleases.

Suppression of helminth rejection by *Eimeria mieschulzi.*

Modern liquid chromatography in biomedical and clinical separations.

Thermodynamics of bioorganic group interactions with water.

The effects of bilingualism on cognitive processes.

Temporal effects of DES and inhibition of meiosis.

Extrapyramidal motor effects of cannabinoids: Nicotinic hypothesis.

Synthetic ionophores.

Mojave toxin isotoxins and mast cell degranulation.

University of Texas at San Antonio

Program Director

Paul H. Rodriguez, Ph.D.
Professor of Life Sciences
College of Sciences and Engineering
University of Texas at San Antonio
San Antonio, Texas 78285
(512) 691-5484
MBRS Office: (512) 691-4172

Participating Institution:

University of Texas Health Science Center at San Antonio (UTHSC)
7703 Floyd Curl Drive
San Antonio, Texas 78284
(512) 691-6011

Project Investigators Number of Student Participants

Deborah L. Armstrong, Ph.D.
(one graduate; one undergraduate)

James P. Chambers, Ph.D.
(one graduate; one undergraduate)

Brenda J. Claiborne, Ph.D.
(one graduate; one undergraduate)

Paula F. Dehn, Ph.D.
(one graduate; two undergraduates)

James M. Gallas, Ph.D.
Patrick L. Nash, Ph.D.
(four undergraduates)

Gloria G. Lyle, Ph.D.
Paul Horowitz, Ph.D. (UTHSC)
(two undergraduates)

Research Projects

In vitro analysis of trimethyltin-induced alterations in hippocampal physiology.

Lipid requirements of the Ca^{++}, Mg^{++}-ATPases in bovine brain.

Structural changes in adult mammalian neurons.

Biochemical indicators and isolated hepatocytes as tools for aquatic toxicity testing.

Photoacoustic and fluorescence characterization of RPE-melanin.

Circular dichroism correlation with asymmetric synthesis: Amino acids.

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University of Texas at San Antonio—Continued

Degree(s) Offered Bachelor's Master's	Andrew O. Martinez, Ph.D. (one graduate; one undergraduate)	Role of cell surface in expression of multicell spheroid phenotypes.
	Robert D. Renthal, Ph.D. (one graduate; two undergraduates)	Purple membrane proton pump.
	Paul H. Rodriquez, Ph.D. (two graduates; two undergraduates)	Genetic control of filarial development.
	David Senseman, Ph.D. (one undergraduate)	Development of video-based optical recording from salivary glands.
	Andrew T. C. Tsin, Ph.D. (two graduates; two undergraduates)	Biosynthesis of rhodopsin-retinoid utilization and glycosylation.
	Matthew J. Wayner, Ph.D. (one graduate; one undergraduate)	Hypothalamic-olfactory interactions in the control of ingestion.
	Robert F. Williams, Ph.D. Larry D. Barnes, Ph.D. (UTHSC) (one graduate; one undergraduate)	Synthesis and interaction of cell colchicine ligands with renal tubulin.

Hampton University

Program Director	Project Investigators Number of Student Participants	Research Projects
Arthur W. Bowman, Ph.D. Assistant Professor of Biology Department of Biological Sciences School of Pure and Applied Sciences Hampton University Hampton, Virginia 23668 (804) 727-5283	Nandita Banerjee, Ph.D. (two undergraduates)	Elongation of 20-carbon polyunsaturated fatty acids.
	Mary Bechtold, Ph.D. (two undergraduates)	Use of the oyster to study lipid peroxidation.
	Arthur W. Bowman, Ph.D. (one graduate; one undergraduate)	kDNA minicircles in cytokinesis of *Crithidia fasciculata*.
	Robert Jordan, Ph.D. (one graduate)	Distribution patterns of Acanthamoeba species (sarcodinid protozoans) in estuarine neuston.
Degree(s) Offered Bachelor's Master's		

Norfolk State University

Program Director

Donald F. Taylor, Ph.D.
Dean
School of Health Related Professions and Natural Sciences
Norfolk State University
2401 Corprew Avenue
Norfolk, Virginia 23504
(804) 623-8180/8725

Degree(s) Offered
Associate's
Bachelor's
Master's

Project Investigators Number of Student Participants

William C. Aitken Jr., Ph.D.
(two undergraduates)

Maxwell A. Bempong, Ph.D.
(four undergraduates)

Miriam D. Rosenthal, Ph.D.
(one undergraduate)

H. Alan Rowe, Ph.D.
Larry Mattix, Ph.D.
(three undergraduates)

Research Projects

Attenuation of the effects of brain damage: Recovery of function.

Phenotypic reversion of transformed cells.

Essential fatty acid metabolism of human endothelial cells.

The structure and function of proteoglycans isolated from pigeon arteries and cultured aortic cells.

Virginia State University

Program Director

Dilip K. Sen, D.V.M., Ph.D.
Professor of Life Sciences
Virginia State University
Box G
Petersburg, Virginia 23803
(804) 520-6131

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Godwin O. Mbagwu, Ph.D.
(two undergraduates)

Dilip K. Sen, D.V.M., Ph.D.
(one graduate)

Research Projects

Synthesis of mesoionic compounds as potential antiprotozoan agents.

Thematic Programs

Tuskegee University School of Veterinary Medicine

Program Director

Walter C. Bowie, D.V.M., Ph.D.
Dean and Professor of Physiology
School of Veterinary Medicine
Tuskegee University
Tuskegee, Alabama 36088
(205) 727-8174

Degree(s) Offered
Bachelor's
Master's
D.V.M.

Project Investigators

Earl Dixon Jr., Ph.D.

Desmond G. Doyle, D.V.M., Ph.D.

James E. Webster, Ph.D.
Fredrick E. Tippett, D.V.M., Ph.D.

Research Projects

Calcium and sodium metabolism in hypertension.

Effects of specific drugs and hormones on cultured canine glomerular cells.

Continued development of a comprehensive investigation of mechanisms of hypertension in a spontaneously hypertensive canine model.

Florida A & M University

Program Director

Magdi R. I. Soliman, Ph.D.
Professor of Pharmacology
College of Pharmacy and Pharmaceutical Sciences
Florida A & M University
Tallahassee, Florida 32307

Degree(s) Offered
Bachelor's
Master's
Ph.D.
Pharmacy

Project Investigators

Henry J. Lee, Ph.D.

Magdi R. I. Soliman, Ph.D.

Research Projects

Chronopharmacology of new antiflammatory steroids.

Evaluation of the effectiveness of fast/food cycle and chronobiotic drugs in facilitating readaptation to phase shifts.

Morehouse School of Medicine

Program Director

Walter W. Sullivan, Ph.D.
Vice President for Sponsored Programs
Morehouse School of Medicine
720 Westview Drive, S.W.
Atlanta, Georgia 30310-1495
(404) 752-1608

Degree(s) Offered
M.D.

Project Investigators

Kamla Dutt, Ph.D.
Nerimiah Emmett, Ph.D.
Sandra Harris-Hooker, Ph.D.
Julian Menter, Ph.D.

David Mann, Ph.D.

Cyril Moore, Ph.D.
Gary Sanford, Ph.D.

Research Projects

In vitro model of blood vessels.

Mechanism for stress-induced testicular hyposensitivity.

Adaptive mechanisms of postnatal lung development.

University of Puerto Rico Medical Sciences Campus

Program Director

George V. Hillyer, Ph.D.
Professor of Pathology
Director
Parasitic Disease Research Program of Puerto Rico
Department of Pathology
University of Puerto Rico
Medical Sciences Campus
GPO 5067
San Juan, Puerto Rico 00936

Degree(s) Offered
Bachelor's
Master's
Ph.D.
D.D.S.
M.D.
Pharmacy
Medical Technology

Project Investigators

Sharon File-Emperador, Ph.D.

Terry C. Hazen, Ph.D.
Garry Torranzos, Ph.D.

George V. Hillyer, Ph.D.

Research Projects

Scanning electron micrographs of schistosome egg migration.

Occurrences of Cryptosporidium and Giardia species in the waters of Puerto Rico.

Identification and isolation of schistosome and other parasitic immunodiagnostic agents.

Undergraduate Programs

Stillman College

Program Director

Jarnail Singh, Ph.D.
Professor of Biology
Stillman College
P.O. Box 1430
Tuscaloosa, Alabama 35403
(205) 349-4240 Ext. 605

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Nathan M. Jideama, Ph.D.
(two undergraduates)

Jarnail Singh, Ph.D.
(three undergraduates)

Research Projects

Effects of carbon monoxide and protein deprivation on development.

Enrichment Activities

Seminars.

Workshops.

Research at off-campus laboratories.

Interactions with visiting scientists.

Regional and national scientific meetings.

Philander Smith College

Program Director

George J. Hammons, Ph.D.
Philander Smith College
812 West 13th Street
Little Rock, Arkansas 72202
(501) 375-9845

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

George J. Hammons, Ph.D.
(two undergraduates)

William H. Woods, Ph.D.
(two undergraduates)

Research Projects

Hepatic glutamate dehydrogenase: Characterization in young and old rats.

Aging changes in neuronal number and structure of major hypothalamic nuclei.

Enrichment Activities

Junior and senior tutorials.

Seminars and science meetings.

Summer research.

Clark College

Program Director

Roosevelt Thedford, Ph.D.
Professor of Chemistry
Clark College
240 James P. Brawley Drive, S.W.
Atlanta, Georgia 30314
(404) 681-3080, Ext. 231

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Winfred Harris, Ph.D.
(four undergraduates)

Roosevelt Thedford, Ph.D.
(six undergraduates)

Research Projects

Regulation of enzyme activity.

Alkylated (poly)ribonucleotides: Synthesis and biological activity.

Enrichment Activities

Monthly seminars.

Bioinstrumentation mini-workshops.

Off-campus biomedical research (summer).

Coppin State College

Program Director

Gilbert Odhiambo Ogonji, Ph.D.
Chairman
Department of Natural Sciences
Coppin State College
2500 West North Avenue
Baltimore, Maryland 21216
(301) 333-7938

Degree(s) Offered
Bachelor's
Pharmacy (dual degree with University of Maryland)

Project Investigators Number of Student Participants

Mary E. Owens, Ph.D.
(two undergraduates)

Tung Wu, Ph.D.
(one undergraduate)

Research Projects

Comparative studies of infectious bronchitis virus polypeptides.

Mutagenic agents resulting in the atrazine *Zea mays* system.

Enrichment Activities

Seminars with invited speakers.

Summer research at University of Maryland, Johns Hopkins University laboratories.

Mississippi Valley State University

Program Director

Jaswant Singh, Ph.D.
Head, Natural Sciences and Environmental Health
Division of Science and Technology
Box 1240
Mississippi Valley State University
Itta Bena, Mississippi 38941
(601) 254-9041, Ext. 6281, 6283

Degree(s) Offered
Bachelor's
Master's

Project Investigators Number of Student Participants

Jaswant Singh, Ph.D.
(sixteen students)

Research Projects

Enrichment Activities

Summer activities at major laboratories.

National symposia.

Weekly seminars.

Rust College

Program Director

Yeong-Maw Yeh, Ph.D.
Assistant Professor of Chemistry
Division of Science & Mathematics
Rust College
1 Rust Avenue
Holly Springs, Mississippi 38635
(601) 252-4661

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Elsayed S. Arafat, Ph.D.
(four undergraduates)

Yeong-Maw Yeh, Ph.D.
(two undergraduates)

Research Projects

Studies on the metabolites of progesterone.

Synthesis and evaluation of potential purine nucleoside phosphorylase inhibitors.

Enrichment Activities

Eight biomedical sciences seminars.

Two research technique workshops.

Two scientific symposia.

Summer research experience at three off-campus biomedical laboratories.

Bennett College

Program Director

Robert E. Boyd Sr., Ph.D.
Acting Chairman
Department of Chemistry
Bennett College
900 East Washington Street
Greensboro, North Carolina
27401-3239
(919) 370-8747 or 8760

Degree(s) Offered
Bachelor's

Project Investigators Number of Student Participants

Robert E. Boyd Sr., Ph.D.
(two undergraduates)

Research Projects

Synthesis of lipophilic prodrugs of biogenic amines as potential antidepressant agents.

Enrichment Activities

On-campus seminars by role model biomedical scientists.

Visits to centers of research excellence.

Participation in national scientific meetings and workshops.

Shaw University

Program Director

Eugene N. Baskerville, Ph.D.
Chairman, Division of
Science and Technology
Shaw University
Raleigh, North Carolina
27611
(919) 755-4992

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Eugene N. Baskerville, Ph.D.
(three undergraduates)

Mohammad Qasim, Ph.D.
(two undergraduates)

Research Projects

Surface glycoprotein in *Trypanosoma brucei.*

Photochemistry of coumarin analogues.

Cayey University College

Program Director

Jose M. Velazquez Lozada, Ph.D.
Department of Biology
University of Puerto Rico
Cayey University College
Cayey, Puerto Rico 00633

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Maritza Rivera Colon, Ph.D.
(two undergraduates)

Jose M. Velazquez Lozada, Ph.D.
(two undergraduates)

Research Projects

Limb regeneration in the newt notophthalmus viridescens.

Distribution of Hsp during the life cycle of Tetrahymena.

Enrichment Activities

Interdisciplinary seminars in science.

Workshops on methodologies.

Off-campus research experiences.

University of The Sacred Heart

Program Director

Pablo M. Salzberg, Ph.D.
Professor of Mathematics
Department of Natural Sciences
University of the Sacred Heart
P. O. Box 12383, Loiza Sn.
Santurce, Puerto Rico 00914
(809) 728-1515

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Jose Cordova, Ph.D.
(four undergraduates)

Pablo M. Salzberg, Ph.D.
(two undergraduates)

Research Projects

Effects of an electric field on the primary process of vision.

An alternative technique for computerized tomography with applications to x-ray, NMR, and PET.

Enrichment Activities

On-campus and off-campus workshops.

Research at off-campus laboratories.

Participation of students in the ACS Junior Technical Meetings.

St. Mary's University

Program Director

Jose M. Cimadevilla, Ph.D.
Associate Professor of
Biological Sciences
St. Mary's University
One Camino Santa Maria
San Antonio, Texas 78284
(512) 436-3555

Degree(s) Offered
Bachelor's
Master's
J.D.

Project Investigators Number of Student Participants

Rosemarie Cynek, Ph.D.
Irwin Goldberg, Ph.D.
Bollara Machia, Ph.D.
Kenneth Pohlmann, Ph.D.
(four undergraduates)

Research Projects

Enrichment Activities

Extramural research.

Seminar series.

Attendance at scientific meetings.

University of the Virgin Islands

Program Director

LaVerne E. Ragster, Ph.D.
Associate Professor of
Marine Biology
Division of Science and
Mathematics
University of the Virgin
Islands
St. Thomas, U.S. Virgin
Islands 00802
(809) 776-9200 x1244, 1354

Degree(s) Offered
Associate's
Bachelor's

Project Investigators Number of Student Participants

Meledath Govindan, Ph.D.
(two undergraduates)

Joseph P. McMillan, Ph.D.
(two undergraduates)

Roy A. Watlington, M.S., M.A.
(five undergraduates)

Research Projects

Synthetic approaches to pyrrolizidines and mitomycins.

Studies on ciguatera fish poisoning.

Enrichment Activities

Lecture series.

Seminars and consultations.

Travel to research laboratories.

Attendance at science conferences.

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